August 30, 2019

Via Electronic Filing (www.regulations.gov)

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
EPA Docket Center, Air and Radiation Docket
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
ATTN: Docket ID No. EPA-HQ-OAR-2019-0136

Re: Renewable Fuel Standard Program: Standards for 2020 and Biomass-Based Diesel Volume for 2021, Response to the Remand of the 2016 Standards, and Other Changes; Proposed rule, 84 Fed. Reg. 36,762 (July 29, 2019)

Dear Administrator Wheeler:

The organizations signed to this letter represent the full value chain of biogas-derived cellulosic biofuel under the Renewable Fuel Standard (RFS) program, as well as objective third parties that support moving this country toward clean, renewable fuels. We appreciate the opportunity to submit these comments on the Renewable Fuel Standard Program: Standards for 2020 and Biomass-Based Diesel Volume for 2021, Response to the Remand of the 2016 Standards, and Other Changes (referred to as "2020 Proposed RVO"). These joint comments focus primarily on issues impacting gaseous cellulosic and advanced biofuels.

Renewable natural gas (RNG) is biogas-derived fuel that has been captured from organic waste streams—including agriculture wastes, municipal wastewater, and municipal solid waste in landfills—and upgraded to achieve quality standards necessary to blend with or substitute

for geologic natural gas. RNG includes renewable compressed natural gas (CNG) and renewable liquefied natural gas (LNG). RNG has grown substantially thanks to the RFS program, making up over 95 percent of our nation's cellulosic biofuel production and generation of D3 Renewable Identification Numbers (RINs). We support increasing the 2020 minimum applicable volume for cellulosic biofuel compared to 2019 to reflect the continued growth in the RNG industry and the investments that have been made and continue to be made, and a growing overall advanced biofuel volume to further support RNG production. However, EPA's proposal does not sufficiently reflect expected available volumes of RNG nor ensure the minimum applicable volumes, as required by statute. **Based on EPA's current pathways, the minimum applicable volume used by EPA to set the 2020 cellulosic biofuel standard should be based on, at least, 650 million gallons of RNG.**[1]

INTRODUCTION

The organizations submitting these comments appreciate EPA's efforts in supporting RNG under the RFS program and urge EPA to increase the cellulosic biofuel volume requirement for 2020 to reflect expected availability of RNG to meet the RFS requirements. We believe that this includes consideration of carryover RINs and the impact of small refinery exemptions to ensure that the requirements EPA sets actually reflect available volume. EPA should expeditiously reform its policy of retroactively reducing the volume requirements through its grant of small refinery exemptions. By granting small refinery exemptions retroactively, without rebalancing the market, EPA's actions have destroyed demand and replaced stability with uncertainty and toxic volatility in that market. In so doing, EPA is threatening the industry the RFS program was intended to promote, ignoring EPA's statutory obligations and the benefits Congress sought to achieve in favor of reducing so-called RFS compliance costs to petroleum companies. These actions and effects are antagonistic to the goals of the RFS program that EPA has been directed by Congress to achieve and uphold.

The organizations represent, among others, feedstock suppliers, producers, distributors, marketers, environmental advocates, and end-users of RNG.

The Coalition for Renewable Natural Gas (RNG Coalition) is the RNG industry in North America. We are a non-profit association of companies and organizations dedicated to the advancement of RNG as a clean, green, alternative and domestic energy and fuel resource. Our membership includes companies throughout the value chain of waste feedstock conversion to transportation fuel under the RFS.

The National Waste and Recycling Association (NWRA) is a not-for-profit trade association representing private solid waste and recycling collection, processing, and management companies that operate in all fifty states.

[1] We take no position on the projected volumes of liquid cellulosic biofuel, which should be added to this volume.

The Solid Waste Association of North America (SWANA) is a not-for-profit professional association in the solid waste management field with more than 8,000 members from both the private and public sectors across North America.

NGVAmerica is a non-profit trade association dedicated to the development of a growing, profitable, and sustainable market for vehicles and carriers powered by natural gas or biomethane. Its member companies produce, distribute, and market natural gas and biomethane, manufacture and service natural gas vehicles, engines, and equipment, and operate fleets powered by clean-burning gaseous fuels across North America.

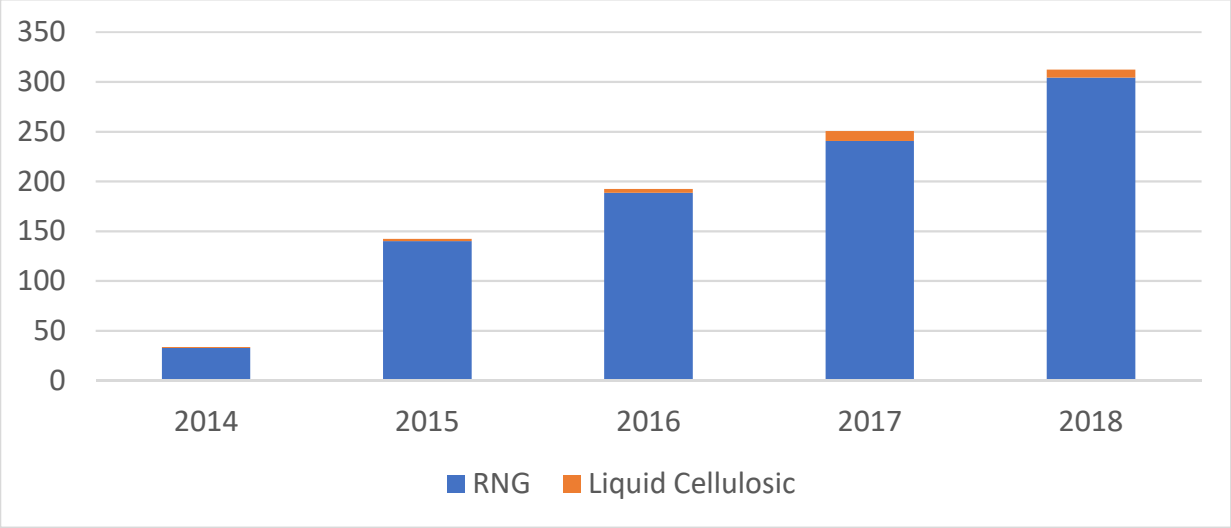
Energy Vision (EV) is a not-for-profit think tank whose mission is to research, analyze and promote the technologies and strategies – viable today – required to transition toward a sustainable energy and transportation future. Since 2010, EV has been the leading independent environmental organization looking at the production and use of renewable natural gas (RNG) as a transportation fuel.

The American Public Gas Association (APGA) represents the interests of approximately 1,000 public gas systems in the United States. APGA members are retail distribution entities owned by, and accountable to, the citizens they serve. They include municipal gas distribution systems, public utility districts, county districts, and other public agencies that own and operate facilities in their communities. Public gas systems' primary focus is to provide their customers safe, reliable, and affordable energy.

Meeting all the goals of Congress when it established the RFS program, RNG provides significant economic, energy security, and environmental benefits.[2] The RNG industry has made substantial investments in response to the RFS. As shown in the table below, RNG production into the transportation fuel market has expanded significantly since RNG became part of the cellulosic biofuel category under the RFS program. A responsible long-term RFS policy will incentivize industry growth by fully accounting for available RNG volumes as intended by the statute.

[2] *See, e.g., infra,* at 16-17.

RNG Production Under the RFS (D3)
EMTS Data (Million Ethanol-Equivalent Gallons)



In the 2020 Proposed RVO, EPA proposes to reduce the statutory minimum applicable volume for cellulosic biofuels for 2020 to 540 million gallons. While a reduction of the statutory volume, this proposal represents an increase of over 100 million gallons from the 418-million-gallon volume requirement EPA finalized for the 2019 compliance year. Of the 540 million gallons of projected available cellulosic biofuel for 2020, EPA projects 525 million gallons of available RNG, using a similar methodology as it did for projecting RNG for the 2018 RFS and the 2019 RFS. This methodology is based on a "growth rate" calculated by comparing 12 months of RNG RIN-generation data to the prior 12 months (hereinafter referred to as "growth rate methodology").[3] In the proposal, EPA recognizes that its "growth rate" methodology *under*estimated actual production for 2018. 84 Fed. Reg. at 36,771. EPA asserts, however, that it only "slightly under-projected." *Id.* But, EPA under-projected 2018 RNG *production* by over 30 million gallons—more than 10 percent of the volume.[4] **Importantly, this does not include the additional available volumes represented by carryover RINs from prior years**.

EPA is not required to be 100 percent "accurate" in predicting actual production or even to be "as accurate as possible," but rather is required to take a "neutral aim" at accuracy. Recognizing this, Congress provided a remedy for over-projecting—cellulosic waiver credits. When EPA underestimates, however, EPA has refused to make the program whole despite its obligations to ensure the *minimum* applicable volumes and, thus, EPA's "inaccuracy" when under-projecting volumes undermines the program. It also ignores that EPA is supposed to set the volume at what is *projected* to be "available," not what is actually produced. Further,

[3] EPA uses a different approach for projecting available volumes of liquid cellulosic biofuel.
[4] The growth rate EPA used to set the 2019 cellulosic biofuel volume (29 percent) has already proven to be low where the industry has shown a growth rate above 40 percent (through July 2019).

instead of taking a "neutral aim at accuracy," EPA is tipping the scale against Congress's intent by undermining the required volumes. EPA is undermining the volumes it is supposed to ensure by perpetuating the "rollover" of prior-year RINs and granting small refinery exemptions retroactively without accounting for their impacts on the volume requirements. This is counter to EPA's obligations under the statute.

EPA also proposes to set the 2020 standard for the total advanced biofuel category based on a minimum applicable volume of 5.04 billion gallons, which only includes the increase in the cellulosic biofuel volume. But Congress sought increased volume requirements to *promote* production of renewable fuels, particularly advanced biofuels like RNG that can qualify as cellulosic biofuel. EPA instead is setting the volumes at a level it believes would contain compliance costs. That's also counter to the statute.

Although we appreciate the proposed increase in the cellulosic biofuel volume requirement compared to 2019, we urge EPA to recognize the significant investments that have been made and continue to be made in improving efficiencies, expanding existing RNG projects, and developing new projects. We also urge EPA to promote biofuels by facilitating expedited registration processes and pathway approvals, and to protect against undermining the volume requirements. In short, the RFS should be administered in a way that secures RNG's important role in domestic fuel policy and facilitates growth of RNG production volumes consistent with the program's advanced and cellulosic biofuel requirements and Congress's goals.

COMMENTS ON PROPOSAL

I. The RNG Industry Supports Increasing Volume Requirements for Cellulosic Biofuel.

We appreciate the proposed increase in the minimum applicable volume for cellulosic biofuels compared to the volume EPA set for 2019. The proposal projects 525 million gallons of available RNG for 2020 based on a 31.4 percent growth in production, looking at EPA EMTS RIN generation data from April 2017-March 2018 compared to April 2018-March 2019. EPA has indicated it will use updated data in setting the final standards. We agree that the RNG industry continues to grow at a significant pace. There is ample room for continued growth of RNG production under the RFS program; provided, however, that EPA properly accounts for that growth *and enforces* those volumes.

We appreciate EPA's proposal to use a consistent methodology in setting the 2020 standards, but, as previously noted, our concerns with EPA's growth rate "historical" methodology have proven to be correct. That is, for 2018, it did not adequately consider new and expanded projects coming on-line *in the future.* It also does not account for the reductions in these volumes as a result of carryover RINs and small refinery exemptions. As such, EPA is not ensuring the volumes it sets. Failure to do so has undermined investments rather than support them. Considering the growth rate based on current EMTS data, the industry has shown a growth rate above 40 percent, resulting in expected production in 2020 of over 600 million gallons. Because of the lag in RIN generation versus production, EPA should utilize the

highest growth rate over the last 12 months versus simply using the most "updated" data. This is currently 42.5 percent, which would yield a volume of over 617 million gallons.[5] The use of the highest growth rate better projects what may be "available" in 2020.

Acknowledging the industry's achievable growth would also help counter the adverse impacts of EPA's recent regulatory actions, which have injected uncertainty into the markets. In other words, while the industry has achieved this growth rate and these volumes can be "available," they may not come to fruition because EPA actions have undermined the market. Although we address small refinery exemptions further below, we note that obligated parties have been reluctant to purchase RINs until EPA issues its small refinery exemptions, due to an actual oversupply that the market perceived would be even larger with the influx of more carryover RINs from additional exemptions for small refineries.[6] Indeed, after EPA announced its exemptions for compliance year 2018 on August 9, 2019, RIN prices fell, according to OPIS reports.[7] The market, however, does not know if this is the end, as EPA identified two additional exemption requests pending for 2018 on August 15, 2019. The volatility in RIN prices can be directly tied to the uncertainty created by EPA's actions. This volatility affects investments and the ability of companies to maintain operations. This has also adversely affected municipalities that are increasingly looking toward RNG projects to manage their waste streams and emissions, particularly regarding wastewater treatment RNG projects. Any possible drop in production is likely the result of EPA's lack of transparency and regulatory uncertainty versus the ability of the industry to meet the volumes. As such, EPA's claim that it is attempting to be "accurate" is suspect.

Instead, EPA appears more concerned about not over-estimating production, which could result in increased RIN prices that EPA considers to be "compliance costs." But such a view tips the scales against growth and, thus, is not a "neutral" aim at accuracy. Moreover, Congress provided a remedy in such cases by requiring EPA to provide credits in the event of underproduction. EPA has, however, refused to true up the volumes when it has undershot, which adversely affects the market and investments, working against the goals of Congress. As such, the only way to take a "neutral aim" at accuracy is to recognize and provide certainty for investments made and being made by the RNG industry and consider *all* volumes "available."

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[5] This is based on EMTS data through July 2019, which EPA made available on August 15, 2019 at https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rins-generated-transactions (data through Aug. 10, 2019). At the time of EPA's July 31 public hearing, the most recent data (through June 2019) showed a growth rate of 41.5 percent. This results in a projection of 609 million gallons for 2020, using EPA's methodology. Both are much higher than the growth rate used in EPA's proposal.

[6] EPA has previously recognized the disincentives created by delays in purchasing cellulosic biofuel RINs by obligated parties. *See* EPA*, Denial of AFPM Petition for Waiver of 2016 Cellulosic Biofuel Standard*, at 3, Jan. 17, 2017, *available at* https://www.epa.gov/sites/production/files/2017-01/documents/afpm-rfs-petition-decision-ltr-2017-01-17.pdf ("If a significant number of obligated parties delay the purchase of cellulosic biofuel and/or cellulosic biofuel RINs from cellulosic biofuel producers or fuel blenders this could significantly depress the demand for, and therefore investment in, the production of cellulosic biofuel and cellulosic biofuel RINs.").

[7] OPIS End of Day Ethanol Assessment Reports, Aug. 9 (ave. $0.605), and Aug. 12 (ave. $0.5125).

A. A predictable and consistent methodology for projecting available volume for RNG is necessary to properly implement the RFS program and support the RNG industry.

In expanding the RFS program, Congress specified the minimum applicable volume of cellulosic biofuels to be required by EPA. In the event projected production falls short of those volumes, the statute requires EPA to adjust the statutory cellulosic biofuel volume to the "projected volume available" for the next calendar year. 42 U.S.C. §7545(o)(7)(D)(i). In projecting available volumes, EPA need only take a neutral aim at accuracy, not precisely predict actual production in the next year. EPA previously used a facility-by-facility approach for projecting available volumes, but, for RNG, moved to a growth rate methodology starting with the 2018 RFS, because RNG is a more mature industry than liquid cellulosic biofuels and there is a larger number of RNG projects compared to liquid cellulosic biofuels. The RNG industry has urged EPA to utilize a consistent and predictable methodology to give the industry certainty and stability to seek financing and make investment decisions, but has also consistently stated that this growth rate methodology requires adjustment if it underestimates production and does not adequately reflect the investments that have been made.

Where the growth rate methodology used by EPA can change depending on the time period and the data chosen, the RNG industry noted its concern that EPA will make a change in the methodology under the guise of "updated data" to provide an even lower projection of RNG than it has proposed or that the industry has shown it can reach.[8] This is not consistent with the statute or with Congressional intent. This is particularly true where the proposal already underestimates potential production, and the industry has shown a growth rate of 42.5 percent and there is ample room for RNG production to grow even more.

The RNG industry has urged EPA to facilitate registration and supported a proposed move to quarterly compliance to reduce some of the lag time in EMTS reporting and impacts of a fluctuating market due to EPA actions that change the expected volume obligations. In discussing exemptions granted after the standards are set (*i.e.*, retroactively), EPA asserts potential problems if it attempted to revise the obligations after they are set, but does not seem to acknowledge or address the problems that arise by its failure to account for these actions and to ensure the minimum volumes required. Because of these impacts, which are outside the control of producers, EPA should not penalize the industry under the guise of taking "neutral aim."

In addition, we note that, while EPA recognizes that use is not constrained for RNG today, EPA's proposal continues to indicate that use of CNG/LNG as transportation fuel as a potential reason for not using the growth rate methodology down the road. 84 Fed. Reg. at 36,775. We agree with EPA that *use* is not currently a constraint to RNG production. But EPA is purporting to use its authority under the cellulosic biofuel waiver provision in setting the 2020

[8] We incorporate by reference the comments submitted by the RNG Coalition, *et al.*, on the 2018 RFS proposal (EPA-HQ-OAR-2017-0091-3650) and the 2019 RFS proposal (EPA-HQ-OAR-2018-0167-0671).

volume. As noted, that provision is triggered based on projected *production*, and EPA is to set the volume at projected volumes *available. Projected use*, therefore, is not an appropriate consideration under the waiver provision.[9] As such, we take issue with the implication that it may be incorporated into EPA's methodology in future years.[10]

Demand for natural gas as vehicle fuel is increasing. RNG is completely interchangeable with natural gas because it is conditioned to the quality specifications of natural gas for use in the same applications, engines and vehicles. Major, nationwide fleets continue to invest in and expand their use of RNG due to its many benefits and track record of reliability and quality. While RNG may be newly popular, it is hardly new. Since 1982, RNG has flowed freely through our nation's robust natural gas pipeline infrastructure reaching consumers in industrial, commercial and residential settings alike. By utilizing proven treating technology to remove carbon dioxide, nitrogen, oxygen, siloxanes, sulphur, moisture and other trace components from raw biogas, RNG meets every standard of quality for productive and beneficial use. As such, under the RFS, EPA should focus its efforts on supporting incentives to increase *production*, as Congress intended and required. Use of RNG should not be a constraint.[11]

EPA, for the first time, rounds the cellulosic biofuel volume to the nearest 10 million, asserting that it is "likely unfounded" to round the volume to the nearest million gallon as it has done each prior year. 84 Fed. Reg. at 36,776. Given that EPA is still setting the volume in the millions even though Congress sought production in the billions,[12] it does make sense to set the volume at the million-gallon mark when appropriate. But, here, EPA's proposal rounds *down*, losing almost 5 million gallons of expected production under its own methodology in the process. While EPA states this is a small percentage and claims that this is lower than the uncertainty in the projected volumes, again EPA is choosing to adjust the volumes below what is expected to be available. The erosion of the volumes, even if in bits and pieces, is still an erosion of the volume. Moreover, relative to the entire program this may be "small," but it is important to the cellulosic biofuel industry where the projects can be smaller in size, particularly when expanding production into other feedstock sources that may require more capital, investment or further research, and could be the difference for another project coming on-line. EPA provides no real explanation for why rounding in this manner is necessary or appropriate. Indeed, EPA reports RIN data to the single digits.

[9] The D.C. Circuit has found that use (*i.e.*, demand) is not an appropriate consideration under EPA's general waiver authority based on "inadequate domestic supply." *See Ams. for Clean Energy v. EPA,* 864 F.3d 691 (D.C. Cir. 2017).
[10] This is particularly troubling where EPA has indicated that it is working on "reset[ting]" the minimum applicable volumes for cellulosic biofuel for 2021 and 2022. 84 Fed. Reg. at 36,766. Although we do not dispute that the "reset" authority has been triggered, EPA is limited to consideration of the listed statutory factors in setting those volumes. Market demand, which the RFS is intended to influence, is not listed among these factors.
[11] *See* EPA-HQ-OAR-2019-0136-0085.
[12] When talking about billions, it makes sense that Congress only went out, at most, two decimal points.

B. Current and planned expansions and new RNG projects should not be stranded or abandoned due to underestimates in projections.

EPA has moved from a facility-by-facility approach for projecting production of RNG to using an industry-wide approach through estimating a growth rate. EPA requests comment on adjustments to EPA's proposed methodology.[13] The RNG industry has expressed its concerns with the growth rate methodology based on historical data. Strict adherence to reliance on historical data potentially misses current development and investment activity. While we are declining from urging EPA to again utilize a facility-by-facility approach at this time, we also believe there is sufficient information to support a projection of RNG production for 2020 well above that projected in EPA's proposal.

The historical growth rate can continue to be a component of EPA's assessment. But, as we previously noted, EPA must make adjustments if reliance on the growth rate alone may strand investments. EPA may consider industry data. *Am. Petroleum Inst. v. EPA,* 706 F.3d 474 (D.C. Cir. 2013). EPA admits that the 2018 projection, using the growth rate methodology, underestimated actual production in 2018. And, the current growth rate of the industry is above the growth rate EPA used to project RNG production for 2019. The 31.5 percent growth rate in the current proposal is too low and does not account for the additional projects that we anticipate will be coming on-line in 2020.

The RNG Coalition has undertaken several steps to improve its data collection and reporting of RNG production and projects. It has a list of facilities and maps on its website (www.rngcoalition.com), which is updated continuously. We have attached the most current list of projects and incorporate by reference that same list from Coalition's website, which may be updated before EPA finalizes the 2020 standards. The RNG Coalition also undertakes periodic surveys of its members to estimate upcoming production and conducts substantial follow-up to "check" the numbers. Based on the surveys we received (as of June 30, 2019),[14] we estimate 580-620 million gallons of production in 2020.[15] This is based on projects already

[13] EPA states that it requests comment "especially if RIN generation data suggests that this methodology is likely to significantly under or over project the production of CNG/LNG derived from biogas in 2019." 84 Fed. Reg. at 36,771. Some may attempt to argue that year-to-date EMTS data for RNG production does not annualize to the 399-million-gallon projected RNG volume for 2019. But, because of delays in EMTS reporting of RNG RINs, production has tended to increase in the second half of the year, and the current over-supply in the market (perceived and real), annualizing the volume based on EMTS data from the first six or seven months of the year likely would not accurately reflect production for 2019.

[14] Since these are projects under development, we have also sought to protect the confidentiality requests of RNG's members. As such, we refer to the database on the Coalition's website.

[15] Based on the surveys, new projects coming on-line in 2020 are estimated to produce over 182 million additional ethanol-equivalent gallons of RNG, which represents a growth rate of over 45 percent compared to EPA's projection of RNG production for 2019. Other agricultural waste projects, while smaller than landfill projects, are likely to contribute additional volumes to the RFS program, and improvements in efficiencies also increase production rates at existing projects.

in operation or under construction and expected to be operational in 2020.[16] Although there may be some uncertainty with new investments given the current state of the program, strong RFS volumes would better ensure these projects come to fruition. That is the goal and purpose of the program. Uncertainty in projections does not undermine attempts at taking a "neutral" aim at accuracy. The RNG industry is also concerned with overestimating and, thus, takes great care in reviewing its numbers. However, the risks of underestimating are simply too great, and EPA is required to implement regulations and set standards that ensure the volumes.

We understand EPA currently does not support using the facility-by-facility approach and has again proposed to use this new growth rate approach, claiming it has been more "accurate." While we acknowledge that the full 2017 estimate did not come to fruition,[17] EPA did not analyze why the projection using industry data was off. Neither EPA, nor the industry, can be faulted for unexpected delays in projects' development. As noted, Congress considered this potentiality, providing for cellulosic waiver credits. Regardless, EPA ignores that the requirements to register and begin generating RINs for RNG projects are substantial. The industry is better equipped, with a few years of RFS participation under its belt, to navigate the regulatory process. We have requested that EPA review and consider these requirements in order to facilitate and expedite the registration process.[18]

Although we anticipate EPA will seek to use updated data from EMTS, EPA should be wary of reducing the volume downward from the proposal, particularly if the "updated" growth rate may project volumes below industry estimates. There is a delay in RNG production being reflected in EMTS data, and there is evidence that the volume EPA proposed can be met. As an initial matter, RNG production has tended to be higher in the last half of the year. More important, EMTS data in any given month may not accurately reflect production or available RNG due to the delay in RNG RIN data being reported in the EMTS. The RNG industry, which has made substantial investments in response to the RFS program, should not be blindsided at the end of November because a data shift might allow EPA to again underestimate RNG production. As noted above, EPA need only take a neutral aim at accuracy in projecting available volumes, not precisely predict production.

C. EPA must ensure the volume requirements.

While there are many projects under construction and more in the works to support substantial growth of RNG, the RNG industry requires stability in the RFS program. Financing is among the most significant challenges cellulosic biofuel producers face in their efforts to bring

[16] Actual construction of a project takes a matter of months. The projects we've included are close to construction and, based on the Coalition's experience, far enough along that we have high confidence that they will become operational absent unforeseen circumstances.
[17] Despite this, the U.S. Court of Appeals for the D.C. Circuit upheld EPA's facility-by-facility approach for 2017. *Alon Ref. Krotz Springs Inc. v. EPA*, No. 16-1052, slip op. at 53-58 (D.C. Cir. Aug. 30, 2019). The Court again upheld EPA's consideration of industry data and recognized that EPA could consider that the industry would be growing. "This seems especially true in an industry with the government's wind surging at its back." *Id.* at 57
[18] *See, e.g.,* EPA-HQ-OAR-2018-0167-0671 at 11-12.

new biofuel to the U.S. market. Cellulosic biofuel producers must be able to demonstrate to their financiers that there will be a sufficient market for the fuel they produce. We request that EPA continue to make clear and regular statements about its intent not to strand available cellulosic biofuel produced in compliance with the RFS, especially where total biofuel available is well under the statutory limits. This includes not undermining the volumes EPA sets by arbitrarily allowing continued "rollover" of RINs or by granting small refinery exemptions without accounting for the exempted volumes.

1. EPA should consider the availability of carryover RINs in assessing available volumes.

EPA has a statutory obligation to set the minimum applicable volume for cellulosic biofuel at the "projected volume available." In projecting volume *available*, EPA should consider the volume available due to additional supply introduced to the market through the use of cellulosic waiver credits (CWC), and, thereby, carryover RINs. If EPA does not consider these CWCs and carryover RINs in its methodology, the methodology will be biased, as the availability of the CWCs and carryover RINs reduces the incentives for actual production. This is contrary to the statute and EPA's obligations to promote *actual production each year*.

In using the cellulosic biofuel waiver for cellulosic biofuels, the statute requires EPA to consider only projected volumes available for the next year. "Volume" is defined as "amount."[19] Here, where RINs represent biofuel production and are used to show compliance with the volume requirements, they represent the "volume" of cellulosic biofuel available for the applicable compliance year. Based on EPA's regulations, this by definition includes prior-year RINs. By focusing on its claimed discretion in how it may account for carryover RINs, EPA does not distinguish how it is required to set the volume for cellulosic biofuels, which is more prescriptive, than how it "may" set the advanced biofuel and renewable fuel volumes under the cellulosic biofuel waiver provision.[20] EPA's failure to do so is arbitrary.

In the 2020 Proposed RVO, EPA again asserts that it will not consider available carryover RINs as part of supply in setting the standards, noting the programmatic need for a RIN bank.[21] 84 Fed. Reg. at 36,767-36,768. But, EMTS data shows almost 40 million 2018 D3 RINs remain available.[22] We anticipate this number to increase by as much as 21.3 million more RINs based on EPA's recent retroactive grants of small refinery exemptions for compliance year 2018,

[19] https://www.merriam-webster.com/dictionary/volume.
[20] These volumes also should be set, however, with the purposes of the statute in mind; that is, to support increased production of biofuels.
[21] While EPA has made this determination with respect to prior standards, EPA indicated that it "would evaluate the issue on a case-by-case basis considering the facts in future years." 84 Fed. Reg. at 36,767. As such, the issue is not barred from judicial review.
[22] *See* EPA, *Total Available RINs to Date*, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/available-rins (updated Aug. 10, 2019).

based on EPA's (impermissible and unsupported) practice of "unretir[ing]" RINs.[23] This could be even more given that EPA is apparently still accepting requests for exemptions, and, thus, the exemptions granted could be even higher in 2019. The availability of 2018 RINs is used by EPA to estimate the number of carryover 2019 RINs into 2020, which should be accounted for in setting the standards. EPA has previously included carryover RINs as part of its assessment of supply in declining to further reduce the cellulosic biofuel volume.[24] But, by not treating these RINs as available volumes, EPA is further reducing the statutory volumes beyond what Congress provided. It is doing so not just by allowing "paper" credits to meet the volume requirements, but by affecting actual demand that, in turn, affects investments.

In failing to account for available carryover RINs, EPA is undermining the volumes it sets by setting the industry up to fail. EPA made a similar determination regarding treatment of carryover RINs with respect to the 2019 standards. That determination has had a significantly harmful impact on the current market for cellulosic biofuel RINs. Excess supply of RINs in the market, combined with policy uncertainty regarding small refinery exemptions and the pending "Reset" rule, have stalled liquidity. When ignoring the impact of carryover RINs on available supply, the market will be oversupplied undesirably. Despite available RNG production, producers are facing the prospects of shuttering their facilities and sending their gas to a flare to be burned and wasted. In addition, an oversupplied market sends a signal to developers and financier that there is no place for them. It discourages the development of new volume of cellulosic biofuel. EPA has previously recognized as much, acknowledging the availability of carryover RINs "could undermine the legitimate need of biofuel producers for assurance that the products they produce will actually be sold and used during a given compliance year." 80 Fed. Reg. 77,420, 77,486 (Dec. 14, 2015). EPA recognized this "could occur if obligated parties preferentially satisfy their obligations with carryover RINs." *Id.* at 77,485. This is what is happening today with respect to cellulosic biofuels.

It is insufficient to support EPA's failure to consider carryover RINs by merely stating that the RIN bank serves an important purpose as a programmatic buffer.[25] This ignores two key issues. First, the statute does not provide for a RIN bank, limiting the life of credits to 12 months. Previously, EPA has recognized that allowing "rollover" violates the 12-month life of a credit under the statute, putting a 20 percent cap on carryover RINs to address this issue. However, EPA appears now to argue that this rollover is warranted as a "programmatic buffer,"

[23] EPA reduces this estimate to 31 million D3 RINs based on the deficits claimed for 2018. *See* EPA-HQ-OAR-2019-0136-0003 at 3. EPA does not provide any explanation as to why these deficits were claimed. It is possible that refiners seeking a small refinery exemption claimed a deficit while they waited for EPA's decision. On August 9, 2019, EPA announced that it granted 31 small refinery exemptions for compliance year 2018, which represents over 21 million cellulosic biofuel RINs, but it is unclear if EPA's webpage has already accounted for these RINs. EPA should not discount the number of RINs available without providing the public more assurance that these are actual deficits that will be met. EPA's delay in resolving the 2018 exemption requests is not an excuse to ignore EPA's statutory obligations.

[24] *See* EPA*, Denial of AFPM Petition for Waiver of 2016 Cellulosic Biofuel Standard*, *supra* n.6.

[25] *Americans for Clean Energy v. EPA* does not require a different result. In that case, the D.C. Circuit was addressing the meaning of "inadequate domestic supply."

rather than to address unforeseen circumstances, as it originally explained. Because EPA can no longer ensure the volumes, EPA also must account for rollover in setting the standards. The flexibility originally sought in allowing RINs a "two-year life" has not been needed. Instead, it has been used by obligated parties to reduce compliance costs and undermine actual production. This is counter to the purpose of the credit program, which was to give incentives to go beyond the volume requirements. Moreover, EPA is required to account for exempted volumes, and EPA acknowledges that a portion of the carryover RINs are associated with small refinery exemptions.

Second, and more important, CWCs already provide a programmatic buffer for cellulosic biofuels. CWCs should not be a main source of compliance, but should serve as a safety valve, and EPA should promote actual production of cellulosic biofuels. The availability of CWCs brings stability in RIN pricing, allowing the market to operate in a more efficient and predictable manner. EPA's handling of carryover RINs and small refinery exemptions are what has disrupted the market, creating inefficiencies. In other words, for cellulosic biofuels, the RIN bank does not serve as a programmatic buffer, but as a source of uncertainty and instability. EPA's adherence to this policy not to drawdown the RIN bank is arbitrary in light of the impacts of an over-supply on the market and EPA's obligation to ensure the volumes, which were intended to promote actual production. EPA has previously recognized as much regarding cellulosic biofuels and has not provided any rationale for its change in position.[26]

EPA has estimated 31 million carryover RINs for 2020. This makes a 31 percent growth rate effectively a 21 percent growth in demand. As such, failure to account for carryover RINs undermines the growth rate formula. This is not a "neutral aim" at predicting available volumes. It is intentionally tipping the scales to underestimate production in an attempt to reduce compliance costs for obligated parties. EPA references the D.C. Circuit's statement in *American Petroleum Institute v. EPA*, 706 F.3d 474 (D.C. Cir. 2013), rejecting EPA's decision to adopt a methodology where the "risk of overestimation is set deliberately to outweigh the risk of underestimation." 84 Fed. Reg. at 36,766. Here, however, EPA is deliberately underestimating production, which it believes would "facilitate" compliance (*i.e.,* reduce compliance costs for obligated parties). EPA ignores that the court also found that *"*a broad programmatic objective cannot trump specific instructions." *Am. Petroleum Inst.*, 706 F.3d at 479. Those instructions are to set standards that "ensure" the volumes. As such, EPA's assessment must consider the impact of carryover RINs and small refinery exemptions.

Finally, even if this helps "facilitate" an Obligated Party's "compliance," the evidence of the 2019 market clearly shows that it will not "smooth overall function of the program." 84 Fed. Reg. at 36,768. Importantly, it is not consistent with the goals of the RFS—including moving the U.S. toward "greater energy independence and security [and] increas[ing] the production of clean renewable fuels." *Id.* at 36,763. Thus, EPA should consider the use of

[26] *See* EPA*, Denial of AFPM Petition for Waiver of 2016 Cellulosic Biofuel Standard, supra* n.6, at 4 ("[C]ellulosic biofuel carryover RINs are of less importance for program liquidity and compliance flexibility than other types of carryover RINs, in light of the availability of cellulosic waiver credits.").

CWCs and availability of carryover RINs when EPA sets the standard for cellulosic biofuel. Failure to take this "available volume" into account will reduce the actual volumes needed to meet the RFS program, undermining Congress's objectives.

We also do not agree with EPA's proposed response to the remand by the D.C. Circuit in *Americans for Clean Energy v. EPA* of EPA's impermissible waiver of 500 million gallons of renewable fuel for compliance year 2016. While some parties may focus on the impacts of increasing ethanol requirements, the 500 million gallons is not an "ethanol" requirement, and advanced biofuels can be used to meet the overall renewable fuel requirements. EPA acknowledges that it could *prospectively* add the 500 million gallons onto future year obligations, like it did with the 2009 biomass-based diesel volume requirement.[27] Implementing the volumes by adding them to later years, gives obligated parties ample time to assess their obligations. Instead, EPA asserts it is not appropriate to require the use of carryover RINs and drawdown of the carryover RIN bank, which EPA calls a "programmatic buffer." In other words, EPA is simply trying to reduce compliance costs. But EPA must implement the 500-million-gallon requirement that it impermissibly waived, even if it may reduce the RIN bank.

2. If EPA continues its arbitrary practice of granting exemptions retroactively, EPA must account for expected small refinery exemptions.

The RNG Coalition has expressed its concerns that the small refinery exemptions are reducing the volumes required under the RFS program. The RNG Coalition continues to believe that the small refinery exemptions should not be used as a tool to undermine the standard-setting process.

EPA's recent handling of the small refinery exemptions has negatively impacted RIN market operations, including for cellulosic biofuels. This stems from EPA's lack of transparency and the retroactive nature of the exemptions.[28] While some have argued that blending continues at similar levels despite these exemptions, those discussions relate to ethanol only. They do not consider the negative impacts these exemptions may be having on advanced biofuels. Numerous members of the RNG Coalition testified at the July 31 public hearing regarding the negative impacts these exemptions have had on their investments and operations. The RNG Coalition supports the testimony of our members, both orally at the public hearing and submitted to the written record, as consistent with industry-wide experience.

For the 2017 compliance year, small refinery exemptions reduced the volume requirements by 9.4 percent. At a minimum, the RNG component of the cellulosic biofuel

[27] EPA provided exceptions to allow prior year RINs to be used to meet the additional compliance requirement.
[28] *See, e.g.,* Testimony of Gabriel E. Lade Center for Agricultural and Rural Development Iowa State University before the Subcommittee on Environment, House Energy and Commerce Committee, July 25, 2018, https://docs.house.gov/meetings/IF/IF18/20180725/108610/HHRG-115-IF18-Wstate-LadeG-20180725.pdf.

volume standard should be increased by 9.4 percent to account for the impact of small refinery exemptions.[29] Even using EPA's 525-million-gallon estimate, this would be around 50 million gallons. Small refinery exemptions for the 2018 compliance year is also about 7.4 percent of the program, and, as noted above, this is likely to increase where EPA has noted it continues to receive exemption requests. Because EPA does not release its decisions and has declined to provide the public with guidance as to how it grants small refinery exemptions, we believe EPA should use the higher estimate to assume small refinery exemptions in 2020, as EPA has shown its willingness to increase these numbers without explanation to the public. In other words, due to the lack of transparency, it is entirely unclear whether EPA will issue even more exemptions in 2019 or 2020. Based on its statutory obligations and its own regulatory requirements, EPA should be requiring these requests and decisions be made *before* the standards are set to better ensure the *minimum* volumes EPA sets are real.

While EPA's testimony last year before the Senate Environment and Public Works Committee indicated that EPA was looking at strategies for reallocation, EPA appears to have doubled down against making the volumes whole. But EPA's regulations and the standards are required to "ensure" the volumes. While the volumes remained intact in the early years of the program despite small refinery exemptions, data now shows that, by failing to account for these exemptions, EPA is not meeting its statutory obligations. EPA cannot simply assert that these issues are "beyond the scope" of EPA's actions. EPA's actions must be consistent with its statutory obligations. If EPA continues its "practice" of granting retroactive exemptions, it must account for the retroactively exempted volumes. As such, accounting for small refinery exemptions is clearly within the scope of EPA's proposal, and opponents should be on notice that EPA's final standards would include a more appropriate accounting of small refinery exemptions, especially in light of the public interest surrounding this issue.

D. Conclusion: For purposes of setting the cellulosic biofuel standard, available volume of RNG for 2020 is projected to be at least 650 million gallons.

In sum, the RNG Industry believes the cellulosic biofuel standard must be based on projecting **at least 650 million gallons related to RNG** available volumes for **2020 *(with additional volumes added to account for liquid cellulosic biofuels)***. This volume would better protect and ensure the investments being made to expand RNG production by existing projects and develop new projects for 2020. It would also make the volumes meaningful, rather than undermine production projections by creating regulatory uncertainty. Regulatory uncertainty can result in difficulties in financing and even to delay projects. This does not ensure the volumes required. This RNG projection of available volumes is based on the following:

- 580-620 million gallons of projected production based on growth rate methodology and industry projections, as further described above;

[29] EPA has other options to address the adverse impacts of small refinery exemptions. Until it does so, however, it must set the standards in a way that implements the purposes and intent of Congress.

- 40-50 million to adjust for expected small refinery exemptions in 2020 based on the exemptions granted in 2017 and 2018; and

- 30-50 million carryover RINs based on EPA's estimates and potential additional carryover RINs as a result of small refinery exemptions for prior years.[30, 31]

II. The RNG Industry Supports an Increase in the Advanced Biofuel Volume for 2020.

Although RNG produced in the United States is predominantly cellulosic biofuel, RNG also can be used to meet the overall advanced biofuel volume. A strong advanced biofuel program will provide incentives to invest in and develop additional RNG projects. EPA proposes an overall advanced biofuel volume of 5.04 billion gallons for 2020, reflecting the full reduction in the statutory volume for cellulosic biofuel. The 5.04 billion gallons of advanced biofuels proposed by EPA for 2020 only includes the increase in cellulosic biofuels, keeping the "other" advanced biofuels stagnant. As noted above, we believe EPA's projection for RNG in the cellulosic category is too low. However, EPA should continue to promote *all* RNG projects, which provide numerous environmental and economic benefits, even for those feedstock sources that EPA may not consider a "cellulosic" feedstock.

For example, the disposal of large amounts of food waste presents environmental and economic problems. Anaerobic digestion is an effective commercial technology for food waste management. Co-digestion of multiple organic waste streams provides a practical solution. EPA has recognized that a primary benefit of co-digestion is that it uses existing infrastructure and expertise to divert food waste and fats, oils and greases for the purpose of biogas production. "Other benefits include greenhouse gas emission reductions, economic benefits and diversion opportunities."[32] A strong RFS program provides the market incentives needed to promote investment in these technologies. Since EPA may treat these projects as non-cellulosic advanced biofuels (D5), EPA should ensure that the advanced biofuel program grows to support investment in these projects. This means adding to, not stagnating, the "other" advanced biofuel (implied) volume.

We agree that EPA should not use its general waiver authority to further reduce the advanced biofuel volume. 84 Fed. Reg. at 36,767. Increasing advanced biofuels production provides environmental and economic benefits,[33] and, as such, it cannot be shown that the proposed volumes will cause *severe* economic or environmental harms. On a lifecycle basis, RNG has among the lowest carbon intensity of all transportation fuels, reducing methane and other harmful emissions from landfills, wastewater treatment and other organic wastes. Based

[30] As of August 29, 2019, EPA has not yet identified the number of CWCs used for compliance year 2018 (https://www.epa.gov/fuels-registration-reporting-and-compliance-help/cellulosic-waiver-credits-purchased-annually (last updated June 21, 2018).
[31] EPA should also account for over production, if any, in 2019, as estimated at the time of the final 2020 RVO.
[32] EPA Region 9, *Organics: Anaerobic Digestion - Co-Digestion*, https://archive.epa.gov/region9/organics/web/html/codigest.html (last updated Feb. 21, 2016).
[33] For a summary of the benefits of RNG, see EPA-HQ-OAR-2019-0136-0085.

on an analysis by the California Air Resources Board, RNG reduces carbon dioxide emissions by 80 percent or more over petroleum diesel. It can also reduce toxic pollutants such as nitrous oxides and sulfur oxides. Failure to enforce strong RFS volumes results in loss of these added benefits.

The RNG industry also provides substantial benefits to the communities in which they operate, creating 173 direct and indirect jobs on average per RNG project in communities across the United States. RNG projects also attract between $10-70 million of investment capital (per project). In fact, when EPA has not fully enforced the required volumes, significant economic harms have been felt throughout the biofuels industry and local communities as a direct negative result of reductions in actual volumes required under the RFS program.

There is also no indication of inadequate domestic supply to meet the volumes proposed by EPA. As noted above, our detailed analyses indicate there is available capacity to reach higher volumes. While the vast majority of RNG is produced domestically, some RNG is imported, and such imports are properly considered part of the available supply for use in the United States. Based on the significant registration requirements under the RFS, only an RNG facility selling fuel into the United States would undergo the process. The projected production from those facilities must be taken into account.[34] Because EPA has properly determined it will not use its general waiver authority in the proposal, any subsequent attempt to use that authority requires compliance with the procedural requirements of the statute; that is, notice and opportunity for the public to comment on such a waiver. We incorporate by reference the comments submitted by the RNG Coalition on October 19, 2017 (EPA-HQ-OAR-2017-0091-4705).

III. The RNG Industry Supports Increased Transparency on Small Refinery Exemptions.

Concerns surrounding the impacts of the small refinery exemptions are largely due to EPA's lack of transparency in how it processes those exemption requests and the extent of those exemptions. EPA has indicated that it is looking to finalize a proposal on transparency from the Renewables Enhancement and Growth Support (REGS) proposed rule.[35] 84 Fed. Reg. at 36,765 (listing REGS Section VIII.O). Part of that proposal included providing basic information on small refinery exemption requests and decisions. 81 Fed. Reg. 80,828, 80,909-

[34] Although we understand some parties have attempted to argue that "inadequate domestic supply" does not include foreign production, EPA has long considered foreign facilities in assessing projected production of cellulosic biofuel facilities with no challenges brought by obligated parties. It makes little sense that this projected production would not be considered available supply for purposes of the general waiver authority. Imports are part of the "supply" of transportation fuel in the United States. Further, EPA has long found it has discretion to deny requests for a general waiver, and it should reject any calls to reduce the proposed volumes based on inadequate "domestic" production, even if it can be claimed that domestic production may not be sufficient to meet the required volumes and imported biofuels may be needed.

[35] We believe individual facility production and sales information is confidential business information (CBI), and thus support the findings regarding EMTS information that EPA proposes to find eligible for such treatment in the REGS proposed rule.

80,910 (Nov. 16, 2016). We believe EPA has improperly withheld this information for too long, and fully support this proposal. Based on recent reports, however, the REGS proposal may not go far enough. EPA should, in fact, provide the public with copies of its decisions so that the public can understand the basis of EPA's actions and ensure that EPA is not violating its procedural requirements to undergo notice and comment rulemaking when amending its rules and regulations. In response to a question by Judge Garland of the U.S. Court of Appeals for the D.C. Circuit, the counsel representing small refineries recently admitted that EPA could provide copies of its decisions, redacting any confidential business information.

Simply reporting when exemptions are sought and granted does not adequately address the negative impacts being caused by these exemptions on the RIN market and on advanced biofuels. The retroactive nature of these exemptions reduces the enforceability of the volumes EPA sets, undermining the investments that have been made to meet those volumes and making it more difficult to secure financing for new projects in the future. Thus, beginning with compliance year 2020, EPA should reconsider the process by providing for prospective grants only and should reconsider the criteria for granting small refinery exemptions in a way that recognizes the intent of Congress, the importance of the RFS program, and the benefits of increased biofuel production to the public and energy sector.

IV. Comments on Proposed Changes to the RFS Regulations

In addition to proposed changes on public access to information discussed above, EPA's proposal indicates that it may finalize certain changes to the RFS regulations, including other proposed changes from the REGS proposed rule. Although EPA claims proposed changes in the REGS rule that it does not list in this proposal are "beyond the scope of this rulemaking,"[36] several of the provisions listed by EPA (84 Fed. Reg. at 36,765) relate to these other provisions. EPA does not explain how it will handle any overlapping issues. In addition, EPA first proposed the REGS rule in 2016. It is now 2019 and EPA has had ample opportunity to consider the comments submitted and consider any changed circumstances, but EPA provides no additional information as to the continued relevance of its prior assessments or any new information that may relate to these provisions. Given the delay and the limited provisions EPA indicates it is considering finalizing, EPA should have provided additional explanation or re-proposed the applicable regulatory language to allow the public to meaningfully comment. Nonetheless, we address these proposed changes below.

A. Flexibilities for renewable fuel blending for military use (REGS Section VIII.E)

In the REGS proposal, EPA proposed to allow renewable fuel blenders who handle and blend renewable fuel for parties that have a national security exemption to delegate their RIN-related responsibilities to the party directly upstream of them who supplied the renewable fuel for blending. EPA explains that parties have wished to provide renewable fuel, either neat or

[36] We incorporate by reference comments submitted on the REGS proposal by the RNG industry. *See* EPA-HQ-OAR-2016-0041-0312.

blended into transportation fuel, for use by the U.S. Military. The RNG industry recognizes that the military has generally been forward-thinking in its use of renewable fuels. Military users of the fuel should not become subject to RFS requirements. We support EPA's proposal to facilitate sales of renewable fuels for military uses and ask that EPA make clear that such use includes RNG even if not "blended."

B. RFS facility ownership changes (REGS Section VIII.H)

In the REGS proposal, EPA proposed to amend the RFS registration, EMTS reporting, and RIN generation requirements to more explicitly outline requirements for renewable fuel producers that transfer the ownership of a facility that was registered under the RFS. As EPA recognized, the registration process can disrupt the continued operation of a facility, and a change in ownership does not equate to changes to the facility itself. But EPA is limiting when RINs can be generated in these cases while it reviews the registration, requires an engineering review, and requires proof of sale. EPA then proposes to retain "sole discretion" to allow for retroactive generation of RINs. 81 Fed. Reg. at 80,903. EPA's only assurance is that it "should be able to accommodate renewable fuel producers." *Id.* at 80,904. While we do not oppose EPA clarifying the requirements when a registered RFS facility transfers ownership, we believe EPA should streamline these requirements to avoid disruptions in operations and clarify under what instances it may not allow RINs to be back dated. For example, other EPA permit programs allow for a much more streamlined means of changing ownership through an administrative permit amendment than EPA proposed in the REGS rule.

C. Additional registration deactivation justifications (REGS Section VIII.J)

In the REGS proposal, EPA sought comment on circumstances in which it may deactivate the registration of a company or third-party auditor. While we do not oppose clarification of when a registration may be deactivated, we believe some of the proposed reasons are overly broad, such as providing for deactivation for submitting "incomplete information," failure to keep records, and failure to provide required "notification." 81 Fed. Reg. at 80,941. EPA should not waste time to deactivate a registration for easily correctable actions. While EPA first proposed these changes in 2016, it is now 2019, and EPA has provided no additional information as to how its deactivation provisions have operated to date or why expansion of those provisions is warranted. In particular, fourteen calendar days may not be sufficient time to respond and address some of these actions.

Also, while actions related to potential enforcement may sound like reasonable grounds to deactivate a registration in theory, creating this additional avenue to penalize a company seems to restrict a company's right to dispute alleged violations. Moreover, EPA's proposal is not limited to potential RFS enforcement actions. EPA simply provides no real justification why these provisions are needed, particularly when RFS registration can be an onerous process.

If EPA can justify its proposed changes, EPA must, nonetheless, revise any final regulatory language to exclude references to registration of third-party engineers, which has not yet been finalized and which the biofuels industry opposed.

D. New pathway for co-processing biomass with petroleum to produce cellulosic diesel, jet fuel and heating oil (REGS Section VIII.M)

EPA proposes to include a new pathway for co-processing cellulosic biomass with petroleum. We take no position on whether such a pathway is appropriate. However, EPA must ensure that it considers new pathways when setting the volumes. It is unclear whether EPA included consideration of additional volumes with respect to this pathway. EPA must anticipate any new pathways or production facilities in setting the volumes for cellulosic biofuel.

E. The RNG Industry supports efforts to ensure compliance with the RVO requirements.

EPA proposes to clarify how obligated parties should calculate their renewable volume obligations regarding diesel fuel. EPA notes that it is concerned that obligated parties "may be calculating RVOs without accounting for all of their 15 ppm distillate fuel (i.e., distillate fuel that contains 15 ppm sulfur or less) that is ultimately sold for use as MVNRLM diesel fuel." 84 Fed. Reg. at 36,799. We support EPA's efforts to "ensure that the RFS mandates continue to be met" by closing any potential loophole or resolving any confusion regarding the incurrence of renewable volume obligations for MVNRLM diesel fuel regardless of whether it was designated as transportation fuel by the refiner or downstream. *Id.* We are, however, concerned with the enforceability of some of the proposed provisions (*e.g.*, allowing exclusion based on mere "notification" by a downstream party) and, as such, request that EPA clarify how it will ensure compliance with these requirements.

In addition, EPA proposes to clarify the definition of "exporters of renewable fuel to ensure appropriate flexibility for market participants and to deter sham transactions." 84 Fed. Reg. at 36,804. Exporters of renewable fuel currently incur an obligation to retire RINs. EPA indicates that it is aware of "contract structuring that may erode compliance assurance" with these provisions. *Id.* EPA is proposing to adopt a joint-and-several liability approach for exporters of renewable fuel, allowing the parties to determine who should retire the RINs. EPA notes that it "does not consider a person to be an exporter of renewable fuel if that person does not now or have reason to know that the renewable fuel will be exported." *Id.* at 36,805. While we do not dispute attempts to clarify the regulations to better assure compliance, we agree that the producer should not be held liable for actions by downstream entities.

V. EPA Must Implement the RFS to Continue the Benefits that Have Been Achieved.

The RFS has historically been quite successful in growing RNG project development and production. This is because the RFS provides a market mechanism for valuing the

environmental and societal benefits of RNG. And it has done so at levels that can sustain operations and future investments.

In the preamble for the proposal, however, EPA references "the high RIN value of cellulosic RINs relative to the fuel value of CNG/LNG derived from biogas." 84 Fed. Reg. at 36,771. EPA further states that "in some cases, CNG/LNG derived from biogas can be produced at a cost that is competitive with fossil natural gas without accounting for any RIN value." *Id.* EPA provides no explanation of the basis or the relevance of these statements, which we believe to be inaccurate. As an initial matter, Congress expressly intended to promote production of RNG and incorporate it into the transportation fuel market. This is due to the environmental, economic and energy security benefits of renewable fuels. As intended by Congress, the RFS program provides the market needed to support investments in RNG projects and keep on building and expanding RNG infrastructure throughout the U.S. in order to help RNG compete with $3.00 natural gas.[37] We recognize that RNG from dairy digester projects that can reach the limited California or Oregon markets may be competitive with $3.00 natural gas, but this is only because they receive additional credits under the low carbon fuel standard (LCFS) from their extremely favorable carbon intensity scores. Also, development of new technologies can reduce costs for existing feedstocks and open new pathways for cost-effective RNG production. But this requires investment in research, and RNG projects require significant capital investments and are based on long-term operations.[38] These projects also do not receive the same benefits under the LCFS, and, importantly, the RFS is a *national* program, and there is substantial room for growth across the United States. As a national program, a properly functioning RFS is critical to meeting Congress' stated goals—moving the U.S. toward "greater energy independence and security [and] increas[ing] the production of clean renewable fuels." *Id.* at 36,763

EPA also continues to only focus on compliance costs. However, EPA is required to implement the statutory minimum applicable volumes. For cellulosic biofuels, EPA reduces those volumes based on an evaluation of the next year's available volume. This is the sole metric EPA should utilize in determining the cellulosic biofuel volume, not consideration of costs.

Nonetheless, any consideration of compliance costs should not be considered in isolation. EPA does not attempt to quantify or even discuss the benefits of renewable fuels, apparently making decisions based solely on assumptions of incremental increase in compliance costs. But Congress enacted this statute so that the country could realize the benefits provided by renewable fuels and move toward renewable fuels, without consideration of costs. RNG projects contribute to reducing the carbon intensity of fuels burned, capture methane emissions that would otherwise escape to atmosphere, and leverage existing waste

[37] EPA also ignores the waste management benefits of RNG production. Other waste management methods, such as flaring, can be less expensive than RNG production.

[38] Project costs can include feedstock gathering and handling (landfill) or anaerobic digestion (dairy), gas upgrading and conditioning, gas compression and injection, interconnection, and pipeline extension.

streams, all of which positively impact public health, climate and air quality. The Bates White report (EPA-HQ-OAR-2019-0136-0085) provides a brief summary of the numerous environmental, economic and energy security benefits of RNG. These benefits are not fully realized when EPA undershoots the "available" volumes. EPA provides no assessment of these lost benefits.

Finally, EPA also continues to arbitrarily focus on the impacts of the program on small refiners/refineries in conducting its Regulatory Flexibility Act (RFA) review. The RFA requires agencies to examine public policy issues using an analytical process that identifies, among other things, barriers to small business competitiveness and seeks a level playing field for small entities, not an unfair advantage. Here EPA is using the small refinery exemptions, which it uses in its RFA analysis, to give an unfair advantage to small refineries. It does so often at the expense of small producers of biofuels. Moreover, EPA imposes substantial requirements on producers to participate in the RFS program. EPA's failure to consider those impacts makes its RFA analysis inadequate.

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CONCLUSION

We thank EPA for consideration of these comments and for the significant effort EPA staff has put into the 2020 Proposed RVO. In short, EPA must provide for increases in the cellulosic biofuel and advanced biofuel categories. We believe EPA must set the cellulosic biofuel standard based on a volume that, at a minimum, reflects 650 million gallons of RNG available volumes. This would include an adjustment for available carryover RINs for cellulosic biofuels where the CWC already serves as the programmatic buffer EPA asserts the RIN bank is intended to provide and an adjustment to remove the uncertainties created by closed-door and retroactive small refinery exemptions that undermine current investments and investments to come by the biofuels industry.

The gaseous cellulosic biofuel industry is growing strong and gaining momentum, thanks in part to the cellulosic biofuel provisions of the RFS. Your action on the 2020 final RFS is critical to the continued development of America's cellulosic biofuel. We look forward to continuing to work with EPA to maintain the success in growing the RNG industry and to ensure a cleaner, more diverse fuel supply for all Americans.

Respectfully submitted,

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Jeffrey Clarke
General Counsel
Natural Gas Vehicles for America

Darrell Smith
President & CEO
National Waste & Recycling Association

David Biderman
Executive Director & CEO
Solid Waste Association of North America

Matt Tomich
President
Energy Vision

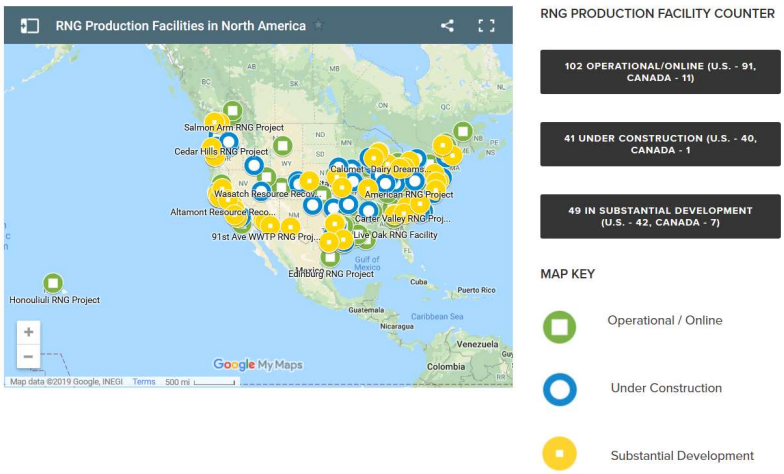
Stuart Saulters
Director of Government Relations
American Public Gas Association

Attachment to
Comments of the Coalition for Renewable Natural Gas, et al., on
Renewable Fuel Standard Program: Standards for 2020 and Biomass-Based Diesel Volume for 2021, Response to the Remand of the 2016 Standards, and Other Changes; Proposed rule, 84 Fed. Reg. 36,762 (July 29, 2019)

Docket EPA-HQ-OAR-2019-0136
August 30, 2019

Coalition of Renewable Natural Gas, RNG Production Facilities Database (available at http://www.rngcoalition.com/)

RENEWABLE NATURAL GAS PRODUCTION FACILITIES IN NORTH AMERICA



RNG PRODUCTION FACILITY COUNTER

102 OPERATIONAL/ONLINE (U.S. - 91, CANADA - 11)

41 UNDER CONSTRUCTION (U.S. - 40, CANADA - 1

49 IN SUBSTANTIAL DEVELOPMENT (U.S. - 42, CANADA - 7)

MAP KEY

Operational / Online

Under Construction

Substantial Development

City	State / Province	RNG Project Name	Feedstock(s)	Pipeline Injected	End Use	Status
USA						
Fort Smith	AR	Fort Smith	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Phoenix	AZ	Phoenix 91st Ave. WWTP	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Operational
Livermore	CA	Altamont	Landfill Gas	No	Renewable CNG/LNG transportation fuel	Operational
South San Francisco	CA	Blue Line Biogenic	AD	No	Renewable CNG/LNG transportation fuel	Operational
Pixley	CA	Calgren Biofuels Digester	AD of dairy waste	Yes	Renewable CNG/LNG transportation fuel	Operational
San Mateo	CA	City of San Mateo	Wastewater Treatement	No	Renewable CNG/LNG transportation fuel	Operational
Perris	CA	CR&R Anaerobic Digester	AD	No		Operational
Oroville	CA	North State Digester	AD	No	Renewable CNG/LNG transportation fuel	Operational
San Diego	CA	Point Loma	Wastewater Treatement	Yes	Renewable Electricity & Fuel Cell	Operational
Sacramento	CA	Sacramento BioDigester	AD	No	Renewable CNG/LNG transportation fuel	Operational
Grand Junction	CO	Persigo Wastewater Treatment Facility	Wastewater Treatement	No	Renewable CNG/LNG transportation fuel	Operational
Conley	GA	Live Oak	Landfill Gas	Yes	Renewable Electricity	Operational
Ellenwood	GA	Seminole Road - Dekalb Country Renewable Fuels Facility	Landfill Gas	Yes	Electricity & Renewable CNG/LNG transportation fuel	Operational
Ewa Beach	HI	Honouliuli	Wastewater Treatement	Yes	Renewable Heat	Operational
Dubuque	IA	City of Dubuque WRRC	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Operational
East St. Louis	IL	Milam	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Fair Oaks	IN	RDF	AD	Yes	Renewable CNG/LNG transportation fuel	Operational
Fair Oaks	IN	RDF Jasper	AD	Yes	Renewable CNG/LNG transportation fuel	Operational
Shawnee	KS	EIF KC - Johnson County	Landfill Gas	Yes	Pipeline	Operational
Lawrence	KS	Renewable Power Producers	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Dodge City	KS	Warrior RNG Project	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Operational
Ashland	KY	Big Run	Landfill Gas		Renewable CNG/LNG transportation fuel	Operational
Louisville	KY	Outer Loop	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Welsh	LA	Jefferson Davis Parish	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Keithville	LA	Keithville	Landfill Gas		Renewable CNG/LNG transportation fuel	Operational
Avondale	LA	River Birch	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Washington	LA	St Landry Parish	Landfill Gas	No	Renewable CNG/LNG transportation fuel	Operational
Riverview	MI	City of Riverview	Landfill Gas	No	Renewable CNG/LNG transportation fuel	Operational
Davison	MI	Davison	Landfill Gas	Yes	Pipeline	Operational
Canton	MI	Sauk Trail Hills	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Three Rivers	MI	Westside	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Canton	MI	Woodland Meadows	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Harris	MO	Locust Ridge - Roeslein Alternative Energy	AD		Renewable CNG/LNG transportation fuel	Operational
Albany	MO	Ruckman - Roeslein Alternative Energy	AD		Renewable CNG/LNG transportation fuel	Operational
Greencastle	MO	Valley View Farm - Roeslein Alternative Energy	AD		Renewable CNG/LNG transportation fuel	Operational

Walnut	MS	North East Mississippi	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Billings	MT	City of Billings	Landfill Gas	Yes	Home Use & Renewable CNG/LNG transportation fuel	Operational
Kenansville	NC	Optima KV	AD	Yes	Renewable Electricity	Operational
David City	NE	Butler County	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Springfield	NE	Sarpy County	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Sioux City	NE	South Sioux City Digester	Wastewater Treatement		Renewable CNG/LNG transportation fuel	Operational
Omaha	NE	State Street	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Staten Island	NY	Fresh Kills	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Seneca Falls	NY	Seneca Meadows	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel, electricity & fuel cells	Operational
Waynesburg	OH	American	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Amsterdam	OH	Apex	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Columbus	OH	Columbus Renewable Energy Facility	Wastewater, food waste & FOG		Renewable CNG/LNG transportation fuel	Operational
Newark	OH	Newark	Wastewater Treatement	Yes	Renewable Heat / Electricity	Operational
Moraine / Dayton	OH	Pinnacle - Stony Hollow	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Cincinnati	OH	Rumpke	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Columbus / Grove City	OH	SWACO / Franklin County	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Zanesville	OH	Zanesville Energy	AD		Renewable CNG/LNG transportation fuel	Operational
Oklahoma City	OK	Oklahoma City	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Guymon	OK	Seaboard Foods / High Plains Bioenergy	AD	Yes	Renewable Electricity	Operational
Oklahoma City	OK	South East OKC	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Greentree	PA	Greentree	Landfill Gas	Yes	Renewable Heat/Electricity	Operational
Imperial	PA	Imperial	Landfill Gas	Yes	Renewable Electricity (CA)	Operational
Cambria	PA	Laurel Highlands	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Evans City	PA	Lego V / Seneca, PA	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Monroeville	PA	Monroeville	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Cairnbrook	PA	Shade	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Davidsville	PA	Southern Alleghenies	Landfill Gas	Yes		Operational
Harrison City	PA	Valley	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Church Hill	TN	Carter Valley	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Johnson City	TN	Iris Glen	Landfill Gas	Yes	Renewable Heat / Electricity	Operational
Athens	TN	Meadow Branch	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Millington	TN	North Shelby	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Edinburg	TX	Edinburg	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Euless	TX	Arlington RNG	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Needville	TX	Fort Bend	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Fresno	TX	Houston - Blue Ridge	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Humble	TX	Humble Renewable Energy	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Houston	TX	McCarty Road	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational

Dallas	TX	McCommas Bluff	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Melissa	TX	Melissa	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Kilgore	TX	Pine Hill / Longview	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
San Antonio	TX	SAWS Dos Rios WWTP	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Operational
Angleton	TX	Seabreeze	Landfill Gas	Yes	Industrial	Operational
Alvarado	TX	Turkey Creek	Landfill Gas	Yes	Renewable Electricity	Operational
Tyler	TX	Tyler / Greenwood Farms	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
North Salt Lake City	UT	Wasatch Resource Recovery	AD & Wastewater Biosolids	Yes		Operational
Maple Valley	WA	Cedar Hills	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Renton	WA	King County South	Wastewater Treatement		Renewable CNG/LNG transportation fuel	Operational
Roosevelt	WA	Klickitat PUD - H.W. Hill RNG Plant	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Casco	WI	Calumet - Dairy Dreams	AD	Yes (not onsite)	Renewable CNG/LNG transportation fuel	Operational
Madison	WI	Dane County	Landfill Gas	No	Renewable CNG/LNG transportation fuel	Operational
Madison	WI	Dane County #2	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Janesville	WI	Janesville	Wastewater Treatement		Renewable CNG/LNG transportation fuel	Operational
Kewaunee	WI	Calumet - Pagel's Ponderosa	AD	Yes (not onsite)	Renewable CNG/LNG transportation fuel	Operational
Newton	WI	Newton	AD of Dairy Waste	Yes	Renewable CNG/LNG transportation fuel	Operational
Charleston	WV	Charleston	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Springdale	AR	Eco Vista	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Stanfield	AZ	GGP	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Petaluma	CA	Ellis Creek	Wastewater Treatement	No	Renewable CNG/LNG transportation fuel	Under Construction
Rialto	CA	Rialto Bioenergy Facility	AD of food waste & wastewater biosolids			Under Construction
Hanford	CA	Hanford-Lakeside Dairy Cluster	AD of dairy waste	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Boulder	CO	City of Boulder	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Englewood	CO	South Platte Water Renewal	Wastewater Treatment	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Longmont	CO	City of Longmont	Wastewater Treatement	No	Renewable CNG/LNG transportation fuel	Under Construction
Des Moines	IA	Des Moines WWTP	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Nevada	IA	Nevada Biorefinery	AD of Biomass & Ag waste	Yes	Pipeiline, Renewable CNG/LNG transportation fuel	Under Construction
Sioux City	IA	Sioux City WWTP	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Jerome	ID	AgPower Jerome	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Huntington	IN	Huntington Anaerobic Digester	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Fair Oaks	IN	RDF #2	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Indianapolis	IN	South Side	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Westover	MD	Westover	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Browning	MO	South Meadows	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Clinton	NC	BF Grady Road	AD	Yes	Renewable Electricity	Under Construction
Tar Heel	NC	Optima TH	AD	Yes	Renewable Electricity	Under Construction

Warsaw	NC	C2E Renewables	AD	Yes	Renewable Electricity	Under Construction
Fremont	NE	Fremont Wastewater RNG Project	Wastewater Treatment	Yes	Pipeline	Under Construction
New York City	NY	Newtown Creek	Wastewater Treatement & Food Waste	Yes	Pipeline	Under Construction
Fairborn	OH	Dovetail Energy	AD	No	Renewable CNG/LNG transportation fuel	Under Construction
Oklahoma City	OK	East Oak	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Portland	OR	City of Portland Bureau of Environmental Services RNG Project	WWTP	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Junction City	OR	JC Biomethane	AD of food & Ag wastes, FOG	Yes	Pipeline	Under Construction
Boardman	OR	Threemile	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Belle Vernon	PA	Westmoreland	Landfill Gas		Renewable CNG/LNG transportation fuel	Under Construction
Memphis	TN	South Shelby	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Alta Loma	TX	Galveston County	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Alvin	TX	Coastal Plains	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Cactus	TX	Cactus Digester Gas Utilization Plant	AD	Yes		Under Construction
Ferris	TX	Skyline	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Hutto	TX	Williamson County	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Salisbury	VT	Goodrich - Vanguard	AD	Yes	Renewable Electricity	Under Construction
Tacoma	WA	Central Tacoma WWTP	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Yakima Valley	WA	Yakima Valley	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Denmark	WI	Denmark	AD	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Grand Marsh	WI	New Chester	AD	Yes	Pipeline, Renewable CNG/LNG transportation fuel	Under Construction
Marshall	WI	Dane-Statz	AD	Yes	Pipeline, Renewable CNG/LNG transportation fuel	Under Construction
Buckeye	AZ	Butterfield 1	AD of Ag waste	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Maricopa	AZ	Maricopa	AD of Ag waste		Renewable CNG/LNG transportation fuel	Substantial Development
Tucson	AZ	Pima County - Tres Rios	Wastewater Treatment	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Chilliwack	BC	Dicklands Farms	AD	Yes	Renewable heat	Substantial Development
Richmond	BC	Lulu Island	Wastewater Treatement	Yes	Renewable heat	Substantial Development
Bakersfield	CA	BENA - Kern County	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Bakersfield	CA	Kern Dairy Cluster Biomethane Upgrading Facility	AD of dairy waste		Renewable CNG/LNG transportation fuel	Substantial Development
Carson	CA	LA County	Wastewater Treatement & Food Waste	No	Renewable CNG/LNG transportation fuel	Substantial development
Ceres	CA	Aemetis Biofuels	AD of dairy waste	Yes	Renewable CNG/LNG transportation fuel	Substantial development
Fresno	CA	Fresno-Clovis Wastewater Treatment Facility	Wastewater Treatment	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Lindsay	**CA**	**Hilarides Dairy Digester**	**AD of dairy waste**	**Yes**	**Renewable CNG/LNG transportation fuel**	**Substantial development**

Manteca	CA	Forward Landfill	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial development
Milipitas	CA	Newby Island	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial development
Madera	CA	Merced Dairy Cluster	AD of dairy waste	Yes		Substantial development
Madera	CA	Red Top	AD of dairy waste	No	Renewable CNG/LNG transportation fuel	Substantial development
Pittsburg	CA	Keller Canyon	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial development
Roseville	CA	Pleasant Grove Wastewater	Wastewater	No	Local Renewable CNG/LNG transportation fuel	Substantial development
San Rafael	CA	Las Gallinas Valley	Wastewater Treatment & Food Waste	No	Renewable CNG/LNG transportation fuel	Substantial Development
Simi Valley	CA	Simi Valley	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Yuma	CO	Yuma County Anaerobic Digester	AD of livestock, Ag waste	Yes		Substantial Development
Georgetown	DE	Sussex 1	AD			Substantial Development
Ball Ground	GA	Eagle Point	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Roxana	IL	Roxana	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Topeka	KS	Oakland WWTP RNG PRoject	Wastewater Treatment	Yes	Pipeline	Substantial Development
Grand Rapids	MI	Grand Rapids	Wastewater Treatment	Yes		Substantial Development
Riverview	MI	Riverview Land Preserve #2	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Lilesville	NC	Catawba Biogas	AD	Yes	Renewable Electricity	Substantial Development
Lenoir	NC	Foothills Renewables	Landfill Gas	No	Renewable CNG/LNG transportation fuel	Substantial Development
Rougemont	NC	Upper Piedmont Renewables	Landfill Gas	Yes		Substantial Development
Lincoln	NE	City of Lincoln	Wastewater Treatment	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Bethlehem	NH	North Country	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Eugene	OR	Eugene-Springfield	Wastewater Treatment	Yes	Pipeline	Substantial Development
Tillamook	OR	Hooley	AD of dairy waste	Yes - Virtual	Pipeline	Substantial Development
Bethlehem	PA	Bethlehem	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Morrisville	PA	Fairless 1	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Morrisville	PA	Fairless 2	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Morrisville	PA	Fairless 3	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Throop	PA	Keystone Landfill	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Philadelphia	PA	Point Breeze	AD of Food Waste & MSW			Substantial Development
Honea Path	SC	Twin Chinmey	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Lewisville	TX	DFW	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Fort Worth	TX	SouthEast Ft. Worth	Landfill Gas		Renewable CNG/LNG transportation fuel	Substantial Development
Houston	TX	McCarty Road #2	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
San Antonio	TX	Tessman Road	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Casco	WI	Kewaunee-Kenard	AD of dairy waste	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Pickett	WI	Rosendale	AD (mixed feedstock)	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
CANADA						
Edmonton	AB	EPCOR Gold Bar	Wastewater Treatement	Yes	Renewable CNG/LNG transportation fuel	Substantial Development

Delta	BC	Seabreeze Farm	AD - Farm / Dairy waste	Yes	Renewable heat	Operational
Fraser Valley	BC	Fraser Valley	AD - Farm & food processing waste	Yes	Renewable heat	Operational
Kelowna	BC	Glenmore	Landfill Gas	Yes	Renewable heat	Operational
Salmon Arm	BC	Salmon Arm	Landfill Gas	Yes	Renewable heat	Operational
Surrey	BC	Surrey	AD - Food waste & MSW	Yes	Renewable CNG/LNG transportation fuel	Operational
London	ON	Storm Fisher	AD - Food waste & MSW	Yes	Renewable heat, Renewable CNG/LNG transportation fuel	Operational
Hamilton	ON	Woodward Avenue WWTP	Wastewater Treatement	Yes	Renewable heat	Operational
Merlin	ON	Ridge - Chatham	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Stratford	ON	City of Stratford	Wastewater treatment & food waste	Yes		Substantial Development
Toronto	ON	Dufferin Organics Processing Facility	AD - Food waste & MSW	Yes	Renewable CNG/LNG transportation fuel	Under Construction
Terrebonne	Quebec	Complexe Enviro Connexions	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
St. Thomas	Quebec	EBI - Rive Nord	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel	Operational
Rivieres-du-Loup	Quebec	Rivieres-du-Loup	AD - Source sorted organic & ICI	No	Renewable LNG transportation fuel	Operational
St.-Hyacinthe	Quebec	St.-Hyacinthe	AD - Source sorted organics & ICI	Yes	Renewable CNG/LNG transportation fuel, residential & commercial heat via pipelien	Operational
Beauharnois	Quebec	BioM	AD - Source sorted organics	Yes	Renewable CNG/LNG transportation fuel	Substantial Development
Warwick	Quebec	Coop Carbone	AD	Yes	Renewable heat, grid	Substantial Development
Saint-Pie	Quebec	CTBM	AD	Yes	Renewable heat, grid	Substantial Development
St.-Sophie	Quebec	St.-Sophie	Landfill Gas	Yes	Renewable CNG/LNG transportation fuel, residential & commercial heat via pipelien	Substantial Development

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