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Comments of VNG.co, LLC on the
Evaluation of Existing Regulations
EPA-HQ-OA-2017-0190

VNG.co, LLC is a developer of compressed natural gas (CNG) fuel dispensing Infrastructure for light- and medium-duty natural gas vehicles (NGVs). EPA's Light-Duty Vehicle Greenhouse Gas Emission Standards undermine the natural gas vehicle (NGV) industry by negating the incentives granted to NGVs by Congress under the CAFE program, based on outdated information regarding their emissions benefits. This treatment is a particularly sharp contrast to the unprecedented incentives given to electric vehicles (EVs), a technology the previous administration actively supported.[1] In doing so, the regulations directly contradict the goals of President Trump's Energy Independence Executive Order, severely inhibit job creation in the NGV industry, and reduce the effectiveness of the program, and should thus be modified to reflect the goals of this docket.

Sectors of the NGV industry suffering the most direct adverse impacts of the current regulations include NGV infrastructure developers like VNG as well as NGV upfitters and natural gas producers, who would benefit greatly from increased demand in the current low price environment. In contrast to the relatively mature markets for heating or power generation, the light-duty transportation market remains the greatest untapped domestic growth opportunity for U.S. natural gas producers.

The lack of development of NGVs and the near-complete dependence of the United States on gasoline as a transportation fuel also poses an ever-present threat to automaker jobs – and particularly the "Big Three" (Ford, GM, and Fiat-Chrysler) whose profitability depends on SUV and pickup sales that are highly vulnerable to oil price spikes (as shown by the bankruptcy filing of GM and Chrysler in 2008). Light trucks constitute 60% of current U.S. auto sales and over 75% of GM, Ford, and Chrysler's sales,[2] and an even greater share of their profits.[3] Crucially, and as discussed in detail in our comments below, these vehicles are much better suited for the use of natural gas than electricity due to their size and weight.

While the EPA's current method of calculating emissions for NGVs compared to EVs is the most direct hindrance to the NGV industry, several other issues also serve as a disincentive for automakers to manufacture and sell NGVs in the United States, which inhibits job creation as well as the effectiveness of the rules in achieving their objectives. These secondary issues include restrictions on tank size for dual-fuel NGVs,[4] advanced technology incentives for pickup trucks that are essentially impossible to use in their current form, and the lack of incorporation of NGV retrofits into the program. Reforming the rules to address these issues could encourage automakers to produce NGVs at high volumes, which would allow for the economies of scale needed to achieve the low incremental costs projected by the

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[1] Press Release, THE WHITE HOUSE, *Obama Administration Announces New Actions To Accelerate The Deployment of Electrical Vehicles and Charging Infrastructure* (Nov. 3, 2016), https://obamawhitehouse.archives.gov/the-press-office/2016/11/03/obama-administration-announces-new-actions-accelerate-deployment.

[2] Market Data Center – Auto Sales, WALL ST. J. (Apr. 3, 2017), http://online.wsj.com/mdc/public/page/2_3022-autosales.html.

[3] Reuters, *Detroit Automakers Rely On US Truck Sales For Global Profits*, INTERNATIONAL BUSINESS TIMES, Apr. 28, 2015, http://www.ibtimes.com/detroit-automakers-rely-us-truck-sales-global-profits-1900694.

[4] In keeping with EPA terminology, "dual-fuel" NGVs refer to vehicles that can operate on *either* natural gas *or* gasoline, and not vehicles that operate on a mixture of these fuels. However, it should be noted that in the NGV and auto industries these "dual-fuel" vehicles are generally referred to as "bi-fuels."

National Petroleum Council in 2012[5] and realize the mass-market potential seen already in countries like Italy.[6]

In doing so, these reforms would allow EPA to deliver greater greenhouse gas reductions while also benefitting the economy through job creation as well as trade deficit reduction, economic expansion, and energy independence, in line with what Administrator Pruitt has characterized as the "pro-growth, pro-environment" philosophy of the Trump administration.[7]

GHG Calculations

The most direct way in which the EPA light-duty greenhouse gas (GHG) rules inhibit job creation in the NGV industry is the manner in which they calculate NGV emissions, which is not only arbitrary but also inconsistent with both Congressionally-mandated CAFE incentives, EPA's past practice of harmonizing its regulations with statutory requirements, and the methodology EPA will phase in for EVs.

Section 6 of the Alternative Motor Fuels Act (AMFA),[8] codified at 49 U.S.C. § 32905, requires that the fuel economy of NGVs be calculated using the Petroleum Equivalency Factor (PEF) that treats every gallon-equivalent of compressed natural gas (CNG) or electricity as 0.15 gallons of gasoline. The goal of this technology-neutral statutory calculation was to provide automakers with a strong incentive to manufacture alternative fuel vehicles to achieve the goal of American energy independence. By encouraging the production of vehicles that use natural gas and other alternative fuels, Section 2 of AMFA finds that the statute will also "improve air quality" and reduce carbon dioxide emissions.

While the statute requires that NGVs and EVs be treated the same in terms of measuring fuel economy, there is no equivalent law governing measurement of GHGs. EPA chose to follow Congressional incentives through model year (MY) 2015[9] but thereafter to give NGVs credit for only a their tailpipe emissions reductions of approximately 20% compared to gasoline instead of the "0.15 divisor,"[10] while temporarily treating EVs as having *zero* emissions.[11] In its 2017-2025 rulemaking, EPA acknowledged that this calculation for EVs failed to account for the upstream emissions produced by EVs from power generation but claimed that the long-term potential of EVs to produce "game-changing" emissions when charged with renewable electricity justified this unprecedented incentive. In order to strike a balance between the desire to award incentives to EVs and the need to properly account for GHGs, EPA decided to incorporate lifecycle emission calculations for EVs only after 2022, and only after automakers surpassed per-manufacturer caps for EV production.[12]

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[5] Report, NATIONAL PETROLEUM COUNCIL, *Advancing Technology for America's Transportation* (2012), http://www.npc.org/reports/trans.html.

[6] Rohan Nath et al., *A Realistic View of CNG Vehicles in the US*, BCG PERSPECTIVES (June 16, 2014), https://www.bcgperspectives.com/content/articles/energy_environment_automotive_realistic_view_cng_vehicles_us/.

[7] *EPA chief: Trump's energy order sends 'pro-growth, pro-environment message'*, FOX NEWS (Mar. 29, 2017), http://www.foxnews.com/politics/2017/03/29/epa-chief-trumps-energy-order-sends-pro-growth-pro-environment-message.html.

[8] Alternative Motor Fuels Act of 1988, Public Law 100-494, 102 Stat. 2441.

[9] Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25716 (May 7, 2010)

[10] 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62623, 62816 (Oct. 15, 2012) (hereinafter "*2012 Light Duty GHG Standards*").

[11] *Id.* at 62819.

[12] *Id. at* 62820.

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EPA previously justified its disparate treatment of NGVs based on their lack of potential for "game-changing" emission reductions comparable to EVs, but this perspective fails to recognize major changes in NGV fueling that have occurred since the original rulemaking in 2012. Today, NGVs are at least as "game changing" as EVs because of the widespread use of renewable natural gas (RNG) fuel in transportation, which yields ultra-low GHG emissions on a lifecycle basis. RNG, also known as biogas or biomethane, captures methane produced from a variety of sources including landfills, dairy and livestock operations, and wastewater treatment plants. Once impurities are removed, this methane can be used as a perfect substitute for fossil natural gas, including distribution in the existing natural gas pipeline system and use in NGVs.

Methane is a very powerful greenhouse gas, yielding a global warming impact 25 times greater than carbon dioxide over a 100 year period.[13] Since the capture of RNG removes methane that would otherwise escape into the atmosphere, it can achieve massive greenhouse emission reductions on a CO_2-equivalent basis when used as a transportation fuel. While lifecycle emissions can vary significantly depending on the pathway for RNG production, according to the most recent values for the California Low Carbon Fuel Standard it can yield emission cuts of between 70% and *130%*[14] – in other words, NGVs powered by RNG can yield even greater GHG benefit than an electric vehicle fueled entirely by solar or wind energy. Because that is truly a game changer, it is vital that EPA change the rules of the game immediately so that all the benefits of RNG can be reaped as quickly as possible.

In the 2017-2025 rulemaking, EPA recognized the potential for RNG to deliver "game-changing" lifecycle GHG emissions for NGVs, but stated that the agency "believe[d] that biomethane will remain a small part of the overall natural gas market for the foreseeable future."[15] This belief is, simply put, outdated. Today, RNG fueling is increasingly the norm for NGVs, thanks to the federal Renewable Fuel Standard (RFS) and the California Low Carbon Fuel Standard (LCFS). While credit markets for these programs were in their infancy during the original rulemaking in 2011, they have since emerged as powerful economic drivers for RNG use in transportation, thanks to the reclassification of RNG as a cellulosic biofuel by EPA[16] as well as CARB's ranking of it as the lowest GHG transportation fuel on the market.[17] Thanks to the value of credits generated by these market-based programs, RNG can now be purchased at prices significantly below that of fossil natural gas.[18]

This economic driver has led to the very rapid increase in the sales of RNG fuel to the transportation sector – particularly in California, where fuel retailers can benefit from sales of both LCFS and RFS credits and where there are the largest number of NGVs and natural gas fueling stations. According to CARB data and the RNG Coalition, over half of all NGV fuel in California in 2015 came from RNG, and about

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[13] Overview of Greenhouse Gases, Environmental Protection Agency, https://www.epa.gov/ghgemissions/overview-greenhouse-gases.

[14] Staff Report, California Air Resources Board, *Proposed Re-Adoption of the California Low Carbon Fuel Standard* (Dec. 2014), http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs15isor.pdf.

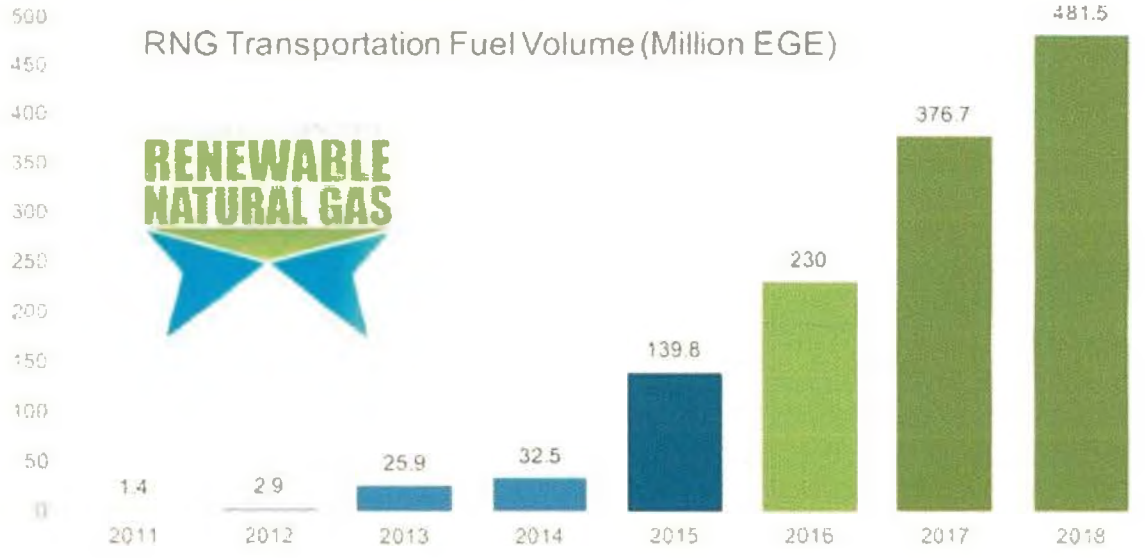
[15] *2012 Light Duty GHG Standards, supra* note 11, at 62815.

[16] "Renewable Fuel Pathways II Final Rule to Identify Additional Fuel Pathways under Renewable Fuel Standard Program Documents." Environmental Protection Agency. July 18, 2014. https://www.epa.gov/renewable-fuel-standard-program/renewable-fuel-pathways-ii-final-rule-identify-additional-fuel-0.

[17] Staff Report, California Air Resources Board, *Proposed Re-Adoption of the California Low Carbon Fuel Standard* (Dec. 2014), http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs15isor.pdf.

[18] David Cox, RNG Coalition.

35% nationally.[19] This percentage is projected to continue rising, with RNG use in transportation by volume projected to more than triple between 2015 and 2018.



Source: RNG Coalition, Fleets & Fuels Magazine[20]

With this trajectory of RNG growth, the emissions benefits of NGVs today are already at least as powerful as EVs and likely even greater. Thus, ignoring the growth of RNG is not only outdated, but it renders the regulations ineffective in their stated goal of reducing GHG emissions. It also inhibits job creation not only in the NGV industry but the RNG industry as well, which has the potential to create jobs at farms and municipalities across the country through the capture and sale of locally-produced renewable fuel. In fact, a new study by the consultancy ICF commissioned by the California Natural Gas Vehicle Coalition and the RNG Coalition found that over 130,000 jobs could be created in California alone from the use of RNG in heavy-duty trucking;[21] even greater job creation impacts could be created with national adoption of RNG-fueled NGVs in the light-duty fleet as well.

EPA should therefore change its rule to be consistent with the intent of the Alternative Motor Fuels Act and to recognize the "game-changing" environmental benefits of NGVs when the lifecycle emissions benefits of RNG are accounted for. This can be accomplished by applying the statutory "0.15 divisor" in calculating the emissions of NGVs through 2022, with lifecycle emissions based on actual RNG use to be phased in after 2022 according to the same volume-based caps used for EV incentives.

We recommend reinstating language from the MY 2011-2016 regulations under 40 C.F.R. § 600.510–12, *Calculation of average fuel economy and average carbon-related exhaust emissions*:

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[19] Patrick Couch, *RNG in California: More Than You Think*, FLEETS AND FUELS (Apr. 20, 2016), http://www.fleetsandfuels.com/fuels/cng/2016/04/rng-in-california-more-than-you-think/.

[20] *Id.*

[21] "Economic Impacts of Deploying Low NOx Trucks fueled by Renewable Natural Gas," ICF, May 2017, https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/590767ce59cc68a9a761ee54/1493657553202/ICF_RNG+Jobs+Study_FINAL+with+infographic.pdf

> For natural gas-fueled model types . . . the carbon-related exhaust emissions value calculated for that model type in accordance with paragraph (b)(2) of this section multiplied by 0.15 and rounded to the nearest gram per mile, except that manufacturers complying with the fleet averaging option for N_2O and CH_4 as allowed under § 86.1818 of this chapter must perform this calculation such that N_2O and CH_4 values are not multiplied by 0.15.[22]

Dual-Fuel Tank Size Restrictions

The 2017-2025 rule made a major stride towards recognizing the potential benefits of dual-fuel (also known as bi-fuel) NGVs that operate primarily on CNG but can also run on gasoline as a backup fuel. This dual-fuel capability is critical to increasing market acceptance for NGVs by eliminating consumers' "range anxiety" while CNG fueling infrastructure is not yet as widely available as gasoline's, much in the same way that plug-in hybrid electric vehicles (PHEVs) like GM's Chevy Volt have played an important role in expanding the early market for EVs by ameliorating the anxiety caused by the relatively short range of dedicated EVs.

While gasoline can be used in an emergency, EPA recognized that drivers purchasing dual-fuel NGVs as well as PHEVs are likely to live in areas where fueling (or charging, respectively) infrastructure is reasonably available, and will also preferentially use these alternative fuels whenever possible given their lower cost compared to gasoline.[23] Thus, the rules allowed automakers to calculate the fuel usage of both dual-fuel NGVs and PHEVs using a method called the "utility factor" which bases relative consumption of alternative fuels versus gasoline on the vehicle's range on the alternative fuel.[24]

Using this method, a dual-fuel NGV with 250 miles of CNG range – such as the 2015 Dodge Ram dual-fuel[25] – would be assumed to operate on CNG 97.1% of the time, making them nearly as beneficial as a dedicated NGV. PHEVs would receive a similar calculation, although their much shorter all-electric range makes the incentive relatively less beneficial. For example, in the original rulemaking EPA estimated that the Chevy Volt would receive a utility factor of 69% for an all-electric range of 50 miles.[26]

However, despite the fact that utility factors for dual-fuels are ostensibly to be calculated based on their range on alternative fuels, EPA has saddled dual-fuel NGVs with a unique and onerous additional requirement: they must have a CNG range at least double that of their gasoline range in order to qualify for the utility factor calculation, or else they default to an assumed baseline 50% CNG fuel use.[27] Not only that, to be eligible for the incentive, the dual-fuel NGVs must be designed to only use gasoline when the CNG tank is empty.

This requirement is inconsistent with the EPA's assumption that dual-fuel vehicles will fuel as often as possible on CNG for economic reasons, which would imply that their proportion of CNG use should be solely determined by their CNG range according to the utility factors – and not by their gasoline range.

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[22] 40 C.F.R. § 600.510–12(j)(2)(iii)(A).
[23] *2012 Light Duty GHG Standards*, *supra* note 11, at 62828.
[24] *Id.* at 62829.
[25] Richard Truett, *Ram will expand lineup of CNG-powered trucks*, AUTOMOTIVE NEWS (Mar. 4, 2015), http://www.autonews.com/article/20150304/OEM05/150309913/ram-will-expand-lineup-of-cng-powered-trucks.
[26] *2012 Light Duty GHG Standards*, *supra* note 11, at 62828.
[27] *Id.* at 62829.

Adding further inconsistency, PHEVs face no such requirements, despite their much more limited all-electric range.

This requirement renders incentives for dual-fuel NGVs less effective by forcing manufacturers to produce vehicles with added costs and potentially reduced market appeal in order to receive them. To date, the dual-fuel configurations offered by automakers have focused on vehicles that maintain full range on gasoline in order to provide as long of a combined range as possible as well as flexibility; for instance, the GM Silverado dual-fuel has a combined CNG and gasoline range of 650 miles (with the majority coming from gasoline) and allows drivers to switch fuels at the flip of a switch.[28]

Beyond unnecessarily restricting customer appeal, the CNG-to-gasoline tank ratio requirement requires automakers to reduce the size and capacity of the existing gasoline fueling systems in dual-fuel NGVs, which imposes additional costs on manufacturers that have to be passed on to consumers. Today's dual-fuel pickup truck designs leave the existing gasoline fueling systems intact and simply add CNG fueling capacity by placing the CNG fuel tank in the bed of the pickup truck. Downsizing the gasoline fueling system would require additional design, manufacturing, and certification costs that would serve no purpose other than meeting an arbitrary and unnecessary regulatory requirement.

Of course, automakers could also pursue the alternative pathway and maintain the existing gasoline tank size and instead greatly increase CNG fueling capacity. However, this would require tripling or quadrupling the amount of CNG range currently installed in vehicles like the Dodge Ram dual-fuel, which would add so much weight and remove so much storage room in the pickup bed that it would be completely unusable for the work fleets that depend on these vehicles. Once again, the current requirement forces automakers to make changes that would increase costs and limit market acceptance in order to receive full regulatory benefits.

Allowing all dual-fuel NGVs to receive the full utility factor credit for CNG use would remove an unnecessary, ineffective, and arbitrary regulatory impediment to the development of this crucial market segment for stimulating growth in the wider NGV industry. And once automakers have a regulatory rationale to invest in the development of dual-fuels, they will be able to adopt more market-friendly solutions for CNG fuel storage design, including integration of tanks under the vehicle carriage instead of in the truck bed as well as the adoption of improved tank technologies.

This goal could be achieved by simply deleting the requirements contained in 40 C.F.R. § 600.510–12, *Calculation of average fuel economy and average carbon-related exhaust emissions*, part (c)(2)(vii)(B) for fuel economy and (j)(2)(vii)(B) for emissions.

Pickup Truck Incentives

Pickup trucks are the best-selling vehicles in America,[29] as well as the most important source of profits for the Big Three U.S. automakers. However, because of their size, weight, and performance requirements, they have the lowest fuel economy of any light-duty vehicle class and face special challenges in achieving the goals of the regulations. For instance, lightweighting is much more expensive, and electrification is considered impractical – indeed, EPA's own recent Technical

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[28] Brandon Turkus, *2015 Chevy Silverado HD gets CNG option*, AUTOBLOG (Feb. 6, 2014), http://www.autoblog.com/2014/02/06/2015-chevrolet-silverado-hd-cng-official/.

[29] Market Data Center – Auto Sales, WALL ST. J. (Apr. 3, 2017), http://online.wsj.com/mdc/public/page/2_3022-autosales.html.

Assessment Report (TAR) does not even consider the possibility of towing-capable EVs in the 2025 timeframe.[30]

In order to encourage automakers to introduce innovative new emission-reduction technologies to their full-size pickup lines, EPA included special "performance-based credit" incentives worth up to 20 g/mi of CO_2 emissions per vehicle for the use of "game-changing" technologies that reduced emissions by at least 15% for full-sized pickups in the 2017-2025 rules.[31] NGVs can clearly surpass this threshold. However, EPA also required that a given technology be deployed in at least 10% of all full-sized pickups sold in order to begin receiving this incentive – an unrealistically high threshold for the introduction of a new technology in such a high-volume segment. This intended incentive is thus likely to be completely ineffective, and indeed EPA's own 2016 Technical Assessment Report projected that they would not be used.[32]

Requiring that automakers manufacture an arbitrary number of full-size pickups to be NGVs to take advantage of the emissions incentive is a missed opportunity to transition this critical segment of vehicles to low-emission, domestically-plentiful, low-cost CNG. In contrast to electrification, natural gas is ideally suited to be an alternative fuel for pickups, as larger vehicle envelopes provide ample room for the integration of compressed natural gas (CNG) storage tanks. Moreover, CNG offers far greater energy density than batteries, making it much better suited for powering heavy vehicles. These characteristics are why natural gas has long been the clean fuel of choice for heavy-duty vehicles like transit buses and refuse trucks, and the same logic holds true for the heavier side of the light-duty vehicle spectrum.

Indeed, automakers have demonstrated that NGVs are already a viable commercial technology. All three U.S. automakers have offered either CNG-equipped or CNG-ready versions of their flagship full-size pickups, including GM's Chevy Silverado,[33] FCA's Dodge Ram,[34] and Ford's F-150. In fact, in addition to being the best-selling vehicle of any model, the 2016 Ford F-150 was named Green Car Journal's "Green Car of the Year" in part due to the availability of a CNG prep package as an option.[35] Despite this interest in deploying CNG in pickups, the incentives as currently structured have not been effective in getting automakers to commit to high-volume production of these vehicles.

Given the importance of the pickup segment to American auto industry jobs, automakers should be given strong incentives to transition to not only low emission technologies but more importantly to alternative, non-petroleum fuels. By creating a CNG-specific full-sized pickup incentive and removing the minimum deployment requirements so that automakers receive an additional credit for every single

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[30] *Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025*, Environmental Protection Agency (July 2016), at 4-40, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100OXEO.PDF?Dockey=P100OXEO.PDF (hereinafter "Draft TAR").

[31] *2012 Light Duty GHG Standards*, *supra* note 11, at 62826.

[32] Draft TAR, *supra* note 31, at 12-9.

[33] Brandon Turkus, *2015 Chevy Silverado HD gets CNG option*, Autoblog (Feb. 6, 2014), http://www.autoblog.com/2014/02/06/2015-chevrolet-silverado-hd-cng-official/.

[34] Richard Truett, *Ram will expand lineup of CNG-powered trucks*, Automotive News (Mar. 4, 2015), http://www.autonews.com/article/20150304/OEM05/150309913/ram-will-expand-lineup-of-cng-powered-trucks.

[35] *Fuel Efficiency, Alternative Fuels and Sustainability Earn Ford F-150 2016 Green Truck of the Year Award*, Ford Motor Co. (Nov. 19, 2015), https://media.ford.com/content/fordmedia/fna/us/en/news/2015/11/19/ford-f-150-earns-2016-green-truck-of-the-year-award.html.

NGV pickup produced, EPA could help ensure that these vehicles and the jobs they create are permanently protected from disruptions in the global oil market.

This goal could be accomplished by inserting a new section (c) under 40 C.F.R. § 86.1870–12, *CO_2 credits for qualifying full-size pickup trucks*, titled "Credits for implementation of natural gas technology." The structure of these credits would be similar to those for sections (a) and (b), but with reduced or eliminated requirements for the "required minimum percent of full size pickup trucks."

Upfits and Retrofits

In Europe, most NGVs are manufactured on high-volume production lines. In contrast, most light-duty NGV sales in the U.S. are upfits, where a vehicle's natural gas components are installed by EPA- and CARB-certified aftermarket providers. This has significant drawbacks: costs are significantly higher due to the need to spread certification costs across low sales volumes, and the emissions benefits produced by upfitted vehicles are not directly incorporated into the current rules. This creates a vicious cycle: automakers do not receive the regulatory benefits of producing vehicles that are converted to CNG, which results in underinvestment that keeps NGVs tied to a low-volume production model with high costs.

The rules also completely ignore the potential gains in energy independence from the retrofitting of older vehicles, which are generally less fuel-efficient than newer vehicles and will be on the road for many years. In contrast to EV and FCV technologies that are impractical to install on existing vehicles, the robust upfit ecosystem in place for NGVs is fully capable of addressing this market, and the updated certification requirements for remarketed and used vehicles established by EPA in 2012[36] could make serving this market very cost-effective. Indeed, as the experience of successful CNG retrofit programs in Oklahoma[37] and Utah[38] has shown, NGV retrofits can play a very important role in jump-starting a virtuous cycle of NGV conversions and fueling infrastructure development.

While expanding the rules to include emission and petroleum reductions from vehicles that have already been sold – or of vehicles that have been prepped for future emission and petroleum reductions – will require a shift in thinking, the environmental and energy security benefits that would result are just as meaningful as those stemming from sales of cleaner new vehicles. Considering this possibility in the rulemaking could deliver dramatically more effective results and lower costs for consumers with gas-guzzling older vehicles.

While this area is more open-ended than some of the other proposals presented here, we believe there are several ways that this goal could be accomplished, such as:

- Including CNG "prep" packages on OEM-manufactured vehicles in the list of technologies eligible for off-cycle credits in 40 C.F.R. § 86.1869–12, *CO_2 credits for off-cycle CO_2-reducing*

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[36] *Certification and Compliance for Vehicles and Engines*, ENVIRONMENTAL PROTECTION AGENCY, https://www3.epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm.

[37] Jay F. Marks, *CNG vehicle conversion business is booming for Oklahoma company*, THE OKLAHOMAN (Mar. 16, 2012), http://newsok.com/article/3658028.

[38] Clifford Krauss, *Surge in Natural Gas Has Utah Driving Cheaply*, N.Y. TIMES (Aug. 29, 2008), http://www.nytimes.com/2008/08/30/business/30gascars.html.

technologies. For instance, Ford's 2016 F-150 pickup included hardened engine valves and other components that reduced costs of upfitting these vehicles for CNG operation.[39]

- Allowing CNG upfitters to "opt in" to the regulation and receive credits for every vehicle they convert to NGV operation. These credits could then be sold or traded to OEM partners, incentivizing them to work closely with upfitters to grow this market.

- Providing credits for retrofits of older vehicles on a sliding scale based on their remaining useful life. For instance, the conversion of a 2-year old vehicle with 80% of its useful life remaining to natural gas would receive 80% of the credit given to a new NGV.

An NGV-Focused Reform Initiative

While the greenhouse gas regulations impairing the development of the NGV industry could be reformed during the broader and longer-running Mid-Term Evaluation (MTE) process, it is clear that the MTE failed to adequately consider NGVs as an important means for achieving EPA's goals. Indeed, the only substantive discussion of NGVs in EPA's 1,217 page TAR is one short paragraph noting the growth in CNG fueling infrastructure,[40] and NGVs were not included in the TAR's models for automaker compliance.[41]

Rather than complicating the MTE by adding full consideration of NGVs, EPA should make these modifications sooner either based on these Comments in this proceeding or as part of a separate rulemaking focused solely on updating and reforming NGV incentives. The goal should be to restore NGV regulatory parity with EVs as envisioned by the law and as justified by the "game changing" performance of NGVs powered by RNG. Indeed, EPA should consider a whole host of opportunities for improving NGV performance that were completely neglected in the TAR, including potential for conformable tank materials, low-pressure CNG storage, and advanced engines that take advantage of CNG's high octane to yield improved fuel economy and even lower emissions.

Unlocking the potential of NGVs to contribute to EPA's mission would be a "win-win-win" for the economy, the environment, and our security as well as an opportunity to immediately differentiate the current administration's "America First" energy independence agenda from the prior administration's focus on EVs. VNG.co, LLC has worked with EPA as well as Congress to improve regulations governing NGVs in the past, and is eager to work with the new Administration to achieve even greater benefits for U.S. energy independence and American workers through the robust development of our industry.

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[39] *First Compressed Natural Gas and Propane-Capable 2016 Ford F-150 Rolls Off The Line At Kansas City*, Ford Motor Co. (Dec. 9, 2015), https://media.ford.com/content/fordmedia/fna/us/en/news/2015/12/09/first-compressed-natural-gas-and-propane-capable-2016-ford-f-150.html.

[40] Draft TAR, *supra* note 31, at 9-41.

[41] *Id.* at 5-502.