1638 Canty Lane
Charleston, SC 29407

www.cleanenergyfuels.com

Brett Barry
Senior Policy Advisor
(562) 522-7427
bbarry@cleanenergyfuels.com

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Ms. Kathleen Theoharides, Chair
Transportation & Climate Initiative of the Northeast and Mid-Atlantic States
Georgetown Climate Center
600 New Jersey Avenue, NW
Washington, DC 20001

Dear Secretary Theoharides:

Clean Energy greatly appreciates the opportunity to comment on the Transportation & Climate Initiative (TCI) Draft Memorandum of Understanding of the Transportation and Climate Initiative. Clean Energy is North America's largest provider of renewable natural gas (RNG) as a transportation fuel. We operate over 550 stations nationwide refueling a wide variety of fleets such as freight trucks, mass transit buses and refuse trucks.

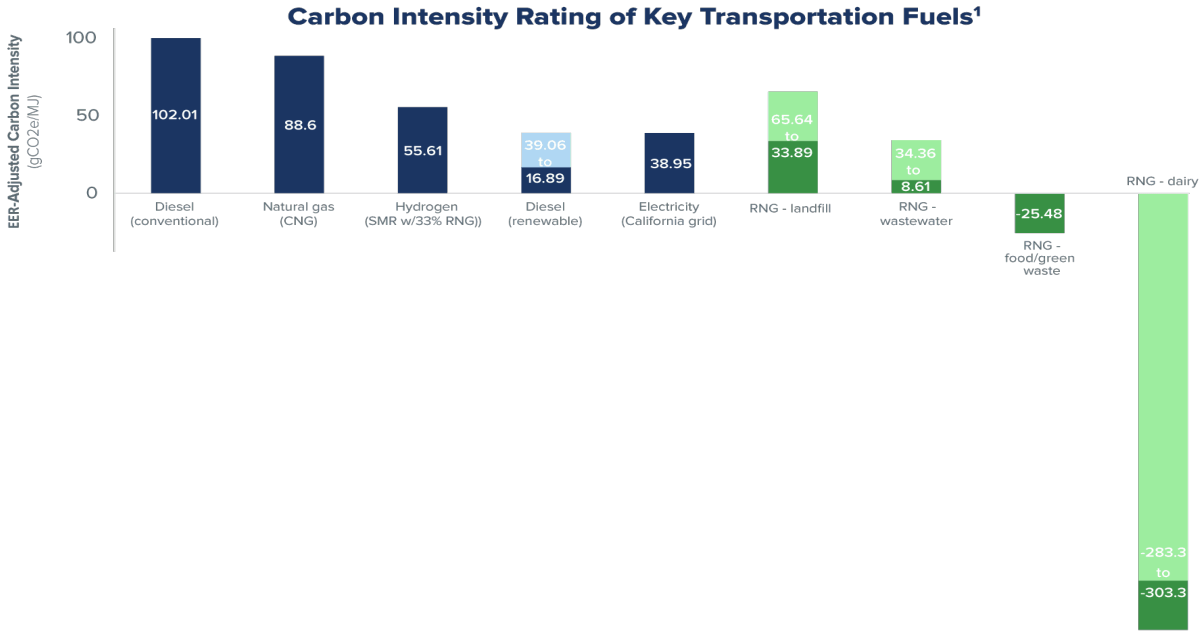
Clean Energy recommends that the MOU endorse an alternative fuel neutral approach thereby allowing the market to respond with the most effective solutions to reduce emissions.

Revenues generated from the implementation of TCI should be available to support all advanced clean vehicles powered by renewable fuels to provide significant emission reductions compared to gasoline and diesel. Given the diversity of performance needs across the transportation sector, providing options for fleets will encourage greater adoption rates. A one-size fits all approach is simply not feasible if a transition away from diesel for the entire on-road transportation sector is the goal.

In order to meaningfully reduce emissions from the transportation sector, alternative fuel vehicles must not only effectively reduce harmful pollutants and carbon emissions, but the vehicles must be commercially available, performance proven and have a price point which does not prohibit wide-scale adoption. While costly demonstration projects serve a purpose, they do not provide meaningful emission reductions or facilitate a near-term shift away from gasoline and diesel. If the Transportation Climate Initiative results in a single-fuel mentality such as an EV-only approach, TCI states will not only be forfeiting much of the heavy-duty vehicle sector to diesel for decades to come but may also be foregoing important solutions that could be deployed if a particular EV application fails to come into fruition.

<u>Near Elimination of NOx and Carbon Negative Potential</u>

Near-zero heavy-duty natural gas engines built by Cummins-Westport are available today and emit 90 to 99 percent fewer NOx emissions than current model heavy-duty diesel trucks. Significant carbon emission reductions are added when these engines are fueled by renewable natural gas (RNG). RNG is derived from waste methane sources making it the only fuel capable of achieving carbon negative status under California's Low Carbon Fuel Standard and enjoys cellulosic D3 RIN status under the Renewable Fuel Standard. **According to the AFLEET model developed by Argonne National Laboratories, a blend of just 40% RNG sourced from landfill gas has a carbon intensity equal to the average U.S. electrical grid mix.** This drops to 25% when sourced from agricultural waste.



Use of RNG as a transportation fuel continues to grow year after year. A recent report by ICF[1], published in December of 2019, concluded that total RNG production could reach over 32.5 billion diesel gallon equivalents (DGE) a year by 2040. This is significant as the total U.S. demand for on-road diesel is about 36 billion DGE per year.

The Most Cost Effective for NOx and GHG Emission Reductions

Recently, a grant was issued in California for the purchase of 21 Class 8 short-haul electric vehicles (EVs) at a total cost of over $11 million (including charging infrastructure). The trucks were only capable of running a distance of about 125 miles.

That same investment could have bought 65 CNG trucks with 3 to 4 times the range and a refueling station. The AFLEET emissions model reveals that these trucks, operating on RNG derived from landfill gas, would reduce an additional 5,597 tons of GHGs and over 11,300 lbs. of additional NOx emissions annually compared to the 21 EV limited range trucks. The transportation sector needs effective technological solutions which carefully consider cost impacts. To truly lower emissions, cleaner vehicles must be deployed in significant numbers.

Conclusion

Near-zero natural gas engines powered by RNG are performance proven, commercially available and the most affordable alternative fueled vehicle option in the heavy-duty sector to reduce the impacts of diesel-powered vehicles. In fact, their in-use emissions have proven to be up to 90 percent less than their CARB

[1] An American Gas Foundation Study prepared by ICF, "Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment", https://www.gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf, December 2019.

certification. These vehicles are well positioned to play a central role in immediately tackling emissions in the medium and heavy-duty sectors as they can be widely deployed thus delivering meaningful results now.

We respectfully request that the TCI MOU endorse an "all-the-above" approach by championing an alternative fuel neutral policy for the reduction of on-road emissions. Thank you again for this opportunity to be part of this highly important policy effort and we look forward to the ongoing discussion.

Regards,

Brett Barry