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October 26, 2017

The Hon. Mike Bonin
Chair, Transportation Committee
Los Angeles City Council
200 North Spring Street
Los Angeles, CA 90012

**RE: COUNCIL FILE 17-0739 - 100 PERCENT ZERO EMISSION FLEET BY 2030
GOAL**

Dear Councilmember Bonin:

While we celebrate the spirit for which the proposed policy is to electrify all of the city bus fleet by 2030, Clean Energy would like to express that this is much more complicated than at first glance and would ultimately be a misguided policy detrimental to the City of Los Angeles.

Any such policy MUST include the use of low NOx compressed natural gas (CNG) buses with renewable natural gas (aka biomethane) as part of the city's fleet, as this provides a superior level of emissions reductions for both NOx and carbon emissions, including on a cost-effective basis, compared to any other advanced technology commercially available.

Rather than picking winners and losers, the City should set performance-based emissions reduction targets. Choosing only electrification is a forced attempt to include a specific technology without instead providing a performance standard to which all technologies would compete.

As North America's largest provider of natural gas transportation fuel with over twenty years of leading industry experience, we provide construction, operation and maintenance services for refueling stations. We have a deep understanding of the growing marketplace, and our portfolio includes 589 stations in 43 states, including a significant presence of 165 in California.

Already used as a clean source of energy around the world, natural gas is abundant and proven to be a cost-saving alternative fuel. Natural gas for transportation fuel strengthens our economy with lower fuel costs, increases our energy security by displacing imported oil, and significantly benefits our environment by reducing carbon emissions and smog-forming NOx emissions by up to 23% and 90%, respectively, relative to diesel fuel. Carbon emissions are reduced even further – by 90% - when natural gas vehicles operate on renewable natural gas instead of diesel. Clean Energy is very proud to be a leader in the RNG fueling space here in California and across the country.

We remain concerned that a finite amount of available funding will go toward fewer transit vehicles than if a performance-based standard is used. This impacts ridership and available service without any benefit since near-zero .02 NOx vehicles have comparable greenhouse gas

emissions if a full life cycle analysis including the fossil fuels used to power the electric grid is taken into consideration.

From well to wheels – the entire emissions chain – engines powered with renewable natural gas have much lower NOx, GHG, PM and SOx than zero-emission buses (ZEB). Therefore, from a cost-benefit analysis, we believe it is in the City's best interest to incentivize private investment using the performance standard. The City should focus on further developing existing technologies that are proven to work, such as fueling with a .02 NOx engine.

A battery electric bus, for example, with a 12-year warranty is listed with a price tag of \$770,000. Transit agencies specify that the lifespan of a bus should be 14 years. If the bus only has a warranty of 12 years there will theoretically be added costs for maintenance, or even possibly the early purchase of more buses.

It is also noteworthy that the drive range of electric vehicle buses is dramatically less than the CNG counterpart. BYD buses are estimated to get 86 miles range while CNG buses have a drive range closer to 450 miles. CNG buses get about 5 times the drive range.

Therefore, we believe the City of Los Angeles must reconcile LA Metro's experience where the EV drive range is a fraction of that for the CNG drive range for a higher price per unit, with EVs having higher wells-to-wheels emissions relative to buses using renewable natural gas. Why would the City of Los Angeles decide to pay more, pollute more and obtain less vehicles?

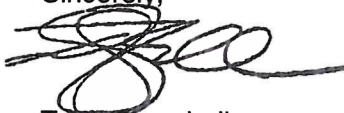
We urge the City of Los Angeles to analyze the performance of the potential battery electric vehicles which could be funded. Battery electric vehicles are not perfect for transit use: they are a proven useful technology for light-duty vehicles, however, this same technology has not proven itself on a more heavy duty scale. In addition, since battery electric buses take extra charging time and have limited drive range, fleets might need to buy up to 30% more buses to compensate.

Further, investments in natural gas fleets and fueling infrastructure should also be recognized as a zero emissions strategy based on data that shows buses powered by renewable natural gas can actually achieve superior emissions performance when compared to battery or fuel cell bus propulsion systems. Fleets should therefore be encouraged to utilize low NOx engines and renewable fuels to achieve zero emission equivalent reductions for NOx, PM and GHGs.

We appreciate your consideration of our views. Please feel free to let me know if we can address any immediate questions.

Thank you,

Sincerely,



Todd Campbell
Vice President, Public Policy & Regulatory Affairs