



California Natural Gas Vehicle

September 30, 2008

Mr. Floyd Vergara, Esq., P.E.
Manager, Industrial Section
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: GHG Emissions Analysis -- Natural Gas vs. Diesel

Dear Mr. Vergara:

The California Natural Gas Vehicle Coalition (CNGVC) appreciates the opportunity to comment on the ARB's preliminary analysis of the GHG emissions for CNG and LNG compared to existing California diesel and LCFS diesel. It is encouraging to see that even in its draft form; this analysis corroborates our confidence in natural gas as a clean transportation fuel:

- Compared to existing diesel, all five CNG pathways and two out of three LNG pathways have lower GHG emissions when used in light-duty vehicles, with reductions as great as 29+%. In the heavy-duty sector, four out of five CNG pathways and two out of three LNG pathways have lower GHG emissions.
- Even when compared with a projected LCFS diesel with 10% GHG emission reduction, three out of five CNG pathways for light-duty vehicles, and the same two LNG pathways, maintain lower emissions. For heavy-duty vehicles, only one of the five CNG pathways moves to a net increase in emissions.

The analysis does, however, raise a number of concerns which, if addressed, will give the ARB a much more credible basis upon which to determine the value of CNG and LNG as low-GHG transportation fuels. We believe that analysis will show even greater opportunities for CNG and LNG to reduce GHG emissions from the transportation sector.

Analysis uses unrealistic natural gas pathways.

1) None of the LNG pathways identified in the analysis (Canadian gas piped to California and liquefied; LNG shipped to Baja and piped to California; LNG shipped to southern California) are currently used to supply LNG to California. Even if LNG eventually is imported to the west coast, which is speculative and far from certain, we do not believe it will be used as a transportation fuel.

2) The CNG-Gulf (LNG shipped to gulf coast port, gasified and piped to California) and CNG-Canada (natural gas piped from Canada to California) pathways also do not reflect current or anticipated practice. California does not pull gas from Canada or the Gulf, and given the growing economic supplies of natural gas throughout much of the United States it is unlikely we will do so in the time frame of the analysis.

Analysis ignores likely and promising natural gas pathways.

1) CNG-Rocky Mountains: Unlike the pathways cited above, CNG from the Rocky Mountains is currently being piped to California, where it is liquefied for the LNG market. Clean Energy, a member of the CNGVC, operates a plant in Boron, CA that receives pipeline gas for LNG production. Another plant in Arizona receives piped gas from west Texas for conversion to LNG.

2) Biomethane: The capture and conversion of methane from landfills, dairies, and wastewater treatment plants present a much more likely scenario for future growth in natural gas transportation fuels, and the GHG emission analysis on this pathway will be outstanding regardless of the source of the gas. There is a significant opportunity to process biomethane and use it in on-site vehicles or add it to the state's natural gas pipeline grid. Even biomethane produced at a significant distance would yield very good emission results and could be transported to California via pipeline. For example, Clean Energy recently purchased a landfill in Dallas, TX for the express purpose of producing up 20,000 GGE/day of pipeline-grade biomethane.

As the ARB knows, a well-to-wheels pathway analysis of biomethane has been conducted for the ARB and CEC by TIAX. The TIAX document has not been made available, despite repeated requests by members of the Coalition at various LCFS meetings. It is important that the results of this analysis be released to the public and be incorporated into the LCFS consideration of natural gas as a transportation fuel.

LCFS diesel pathway is speculative and vague.

The analysis uses a "generalized diesel pathway," but provides no details on the sources of the petroleum used to produce the diesel fuel. For example, are the values assigned to various segments of a well-to-wheels analysis of diesel fuel based on the sources of current petroleum supplies? Does the diesel pathway account for anticipated changes in supply sources in the future?

The values for LCFS diesel are simply a straight-line 10% reduction in carbon intensity from current California diesel. Does this mean the ARB has analyzed the likely production of LCFS fuel and concluded there will be no changes in any of the segments for LCFS diesel compared to California diesel?

The ARB appears to favor a compliance path for LCFS diesel that will allow refiners to make only minimal reductions in carbon intensity for most of the period leading up to the 2020 deadline. We believe this approach is a recipe for failure and makes the 10% carbon intensity reduction in LCFS diesel all the more speculative. The fact is that various CNG and LNG pathways show significant GHG emission reductions compared to California diesel, and even ultra-low GHG emission biomethane is currently being produced and is expected to grow substantially by 2020. Conversely, no LCFS diesel exists or is expected to exist, even in the best of worlds, before 2018. Whether it is available in 2020 remains more a hope than an expectation.

In summary, the CNGVC urges the ARB to delete specific pathways that are not relevant to California's transportation fuels market and to add biomethane and other relevant pathways to the

analysis. Given the ready availability of natural gas in various pathways that results in significant GHG emission reductions, and the unavailability and speculative nature of LCFS diesel, we also urge the ARB to recognize and account for these reliability factors in the final draft of the analysis. Finally, we hope the ARB will make it clear that this "preliminary analysis" is a draft document that will be posted for full public comment before a final document is released.

Thank you for your consideration of our views. Please do not hesitate to contact me at (916) 448-1015 or pete@pricecon.com if you wish to discuss this matter further.

Sincerely,

A handwritten signature in black ink, appearing to read "Pete Price". The signature is written in a cursive, flowing style.

Pete Price
Governmental Affairs Representative

cc: Mr. William Zobel, President, CNGVC