



California Natural Gas Vehicle

September 28, 2009

The Honorable James Boyd
California Energy Commission
Dockets Office MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Docket No. 09-ALT-1 – Natural Gas and Propane Technical Workshop

Dear Commissioner Boyd:

The California Natural Gas Vehicle Coalition (CNGVC) is pleased to offer comments on the 2010-11 Investment Plan for the AB 118 Alternative and Renewable Fuel and Vehicle Technology Program. The initial Investment Plan was the product of extensive discussion among stakeholders and the CEC, and we appreciate the CEC's outreach to the natural gas vehicle industry for its input on the 2010-11 Investment Plan.

The CNGVC strongly endorses the CEC's vision as embodied in the current Investment Plan, with its focus on the deployment and commercialization of near- and medium-term technologies that can lead to the long-term proliferation of ultra-low carbon fuels, and we urge the CEC to maintain its approach in the 2010-11 Investment Plan. This approach is especially important because it supports and is consistent with the goals of the state's Low Carbon Fuel Standard (LCFS). Taken together the Investment Plan and the LCFS are game-changing state policies that can lead to a "tipping point" in demand for alternative fuels and vehicles. Natural gas vehicles in all duty classes can play a significant role in near-term deployment and provide a path to more advanced platforms, including bi-fuel (pony tank) and hybrid vehicles, and ultra-low carbon fuels such as biomethane and hydrogen. We particularly look forward to the next AB 118 solicitation, which we understand will not require that project proposals also qualify for federal stimulus funds. Although that requirement may have maximized leverage with available federal funds, it also had the effect of disqualifying some very worthy natural gas and biomethane projects.

Several important issues were repeatedly raised by members of the natural gas vehicle industry at the September 18 workshop and bear repeating here:

- The Investment Plan should give increased attention to vehicle incentives.
- The commercialization of bi-fuel vehicles can help overcome market barriers, especially in the light-duty market.
- The Investment Plan should explicitly include and provide support for light-duty upfits.
- The time and expense of the CARB certification process is a barrier to small volume upfitters.
- Concerns about the pipeline quality of biomethane gas, particularly from landfills, need to be resolved.

Increase vehicle purchase incentives

Several speakers stressed the need for additional funds in the Investment Plan for vehicle purchase incentives. Perhaps most notably, Clean Energy, the nation's largest builder and operator of natural gas fueling stations, urged the CEC (against its own apparent interest) to shift some of the funds earmarked for infrastructure into additional vehicle purchase incentives. This position reflects the industry's experience with the unsuccessful "if you build it, they will come" approach taken in the 1990s. Prevailing wisdom is now that what providers of fueling infrastructure most need is not subsidies to construct the infrastructure but adequate vehicle throughput to ensure the project will cash-flow.

According to data presented by Mike Eaves of Clean Energy, the worldwide purchase of natural gas vehicles has exploded by 75 percent (5.6 million to 9.8 million) in less than three years, leading to a 40 percent increase in fueling stations. In the U.S., by contrast, the number of NGVs and fueling stations has declined in the same period. California has bucked that trend by increasing the number of vehicles and fueling stations by 5 to 10 percent. But the telling statistic is that fueling stations worldwide serve an average of 667 vehicles, while in California they serve only 64.

This disparity is partly explained by the relatively greater use of NGVs in California in medium- and heavy-duty applications, but it also suggests that the key to solving California's "chicken-egg" dilemma is to give maximum attention to increasing the number of NGVs on the road. Accordingly, the CNGVC urges the CEC to increase funding for vehicle purchase incentives, even if it requires shifting some funds away from subsidies for fueling infrastructure. We also believe the light-duty sector merits increased funding compared to its \$2 million allocation in the initial Investment Plan, especially when combined with other recommendations below.

Support development and commercialization of bi-fuel vehicles

Unlike in Europe and much of the rest of the world, the U.S. and California NGV industry has long focused its attention on dedicated NGVs. But the reticence of OEMs (with the admirable exception of Honda) to produce dedicated light-duty NGVs for the U.S. market and the success of OEM as well as upfit bi-fuel NGVs worldwide has led the CNGVC to reconsider that position. Indeed, of the 9.8 million NGVs worldwide that are light-duty vehicles, the vast majority are bi-fuel, employing a "pony" or "limp home" gasoline tank to overcome consumer concerns about natural gas fueling availability. Almost all of the major OEMs produce multiple NGV models for the world market, and almost all the models are bi-fuel. Those countries with the widest bi-fuel NGV offerings tend to be those countries with the most extensive fueling infrastructure, corroborating our belief that with increased vehicle volumes, the natural gas fueling infrastructure will come with little or no need for financial support.

It is clear from questions posed by staff at the workshop that the CEC is interested in supporting hybrid vehicle applications. We urge the CEC to include bi-fuel vehicle platforms within its concept of hybridization, especially in the light-duty sector. Although we believe natural gas/electric hybrids are one of many options for future natural gas vehicle platforms,¹ they present technical and cost challenges. But more to the point, they offer less opportunity than bi-fuel vehicles to overcome the market barriers faced by natural gas vehicles.

¹ In the medium- and heavy-duty sector, Waste Management is exploring the use of LNG/hydraulic assist garbage trucks. At the recent NGV America Market Advisory Committee meeting, ISE Corporation described its work to develop a CNG hybrid bus, which it is now demonstrating in a project with the San Diego Metropolitan Transit Agency.

OEMs that are hesitant to introduce dedicated NGVs in the U.S. are likely to be even more reticent to produce a more costly natural gas/electric hybrid, especially if the reticence is driven by consumer concern over the convenient availability of natural gas fueling stations. A bi-fuel natural gas vehicle with a small “limp home” gasoline tank overcomes these concerns for many consumers and is thus a more likely marketing opportunity for OEMs. That certainly has been the case in Europe and many other countries. And while the gasoline option on an NGV raises some concerns about predicted emission reductions, that concern is addressed by ensuring that the gasoline tank is sized for emergency use only.

Support light-duty upfits

The current Investment Plan does not ensure that light-duty vehicle conversions will qualify for incentive funding; instead it only says the CEC will consider such proposals. We urge the CEC explicitly to allow certified NGV upfits to qualify for purchase incentives on an equal footing with OEM vehicles.

OEM manufacturers are in the midst of the most challenging market environment in their history. It is not surprising that they are hesitant to enter into new vehicle lines with relatively small volume sales. But a robust upfit sector is active worldwide. Several CNGVC members manufacture and/or install natural gas conversion systems, but they are usually on a disappointingly small scale. It should be a source of embarrassment that one of the world’s largest vehicle upfitters, IMPCO and its subsidiary Fuel System Solutions, is based in Santa Ana but does not sell into the California market.

In the absence of significant OEM involvement in the U.S. NGV market, it is all the more important that we support the upfit market as a way to create market demand, lower prices, and create a path for OEM involvement. IMPCO’s testimony at the workshop was striking: while conversion costs in the U.S. can approach \$10,000, the differential cost in Europe for a natural gas conversion compared to the OEM product is no more than \$2,000. But in Europe, the volume of conversions dwarfs California and the U.S. According to IMPCO, in Italy alone, 25,000-30,000 vehicles are converted to natural gas every month. That’s the power of volume. It should be noted that most of these conversions are to bi-fuel applications.

Work with CARB to improve the certification process

The CEC heard from several speakers at the workshop about the time and expense of the ARB’s engine certification process. In part these complaints are made within the context of the USEPA certification process, which has different standards than the ARB process. But for almost 40 years California’s air quality rules often have been more rigorous than federal rules, and the CNGVC is not challenging the ARB’s authority to establish more rigorous rules, nor the need for it to do so.

We only note that the certification process does make it quite difficult to bring new products to market in a timely manner, especially for small volume manufacturers, which are critical to the natural gas industry to provide products not produced by OEMs. IMPCO, one of the largest of the small volume manufacturers which does conversions worldwide, stated bluntly that it has chosen not to enter the California market because of the time and expense of the certification process. According to IMPCO, when each model year of an engine must be certified and certification takes at least six months, it leaves only a few months to sell the product before the next model year. Given the relatively small

volumes demanded by the marketplace and the high costs of certification and the product itself, IMPCO argues it is not economically viable to pursue certification.

The CNGVC hopes the CEC will consider supporting a project, whether through AB 118 funding or other means, to work with the ARB and key industry stakeholders on a thorough review of the certification process, to identify any opportunities to revise the process to make it more timely and effective without diminishing the legitimate technical data needs of the ARB.

Support projects to remove barriers to adding biomethane to the natural gas pipeline grid

Biomethane holds immense promise as an ultra-low carbon transportation fuel that can be produced in large volumes from sources such as landfills, dairy digesters and wastewater treatment plants. Some of the CNGVC's members, such as Waste Management and Clean Energy, already are engaged in projects to convert landfill gas to biomethane CNG and LNG. In their early stages, these projects often focus on using the biomethane to fuel onsite vehicles, such as garbage trucks. But the successful development of biomethane as a transportation fuel in significant quantities will quickly outstrip onsite demand. The gas will need to find its way into the established natural gas distribution system.

Adding biomethane CNG to the natural gas pipeline, especially from landfills, presents challenges that have not yet been resolved. California law and CPUC rules limit the amount of vinyl chloride that can be present in pipeline natural gas. Natural gas utilities also have concerns about other contaminants that also might be present in biomethane derived from landfill gas. Biomethane developers express confidence that the technology to clean up biomethane to pipeline standards is readily available, yet natural gas utilities express concerns about momentary spikes in contaminant levels.

As landfill gas to biomethane projects advance, the need to resolve these issues becomes more pressing. According to the ARB's exhaustive analysis, done for the Low Carbon Fuel Standard, CNG from landfill gas has the lowest carbon intensity of all alternative fuels. In 2011 biomethane producers will be able to earn valuable LCFS credits for the use of biomethane as a transportation fuel. The CNGVC believes a strong proposal can be presented to the CEC, prepared jointly by gas utilities and biomethane producers, to conduct the testing and research necessary to resolve these issues and ensure that biomethane produced to pipeline quality has ready access to the natural gas pipeline. We hope the CEC will give strong consideration to such proposals under the non-GHG funding category, which includes technical assistance and technical analyses.

We appreciate the opportunity to provide these comments and welcome any further discussion you may wish.

Sincerely,



Pete Price
Executive Director

cc: The Honorable Karen Douglas
Mr. Peter Ward
Mr. Tim Olson