

**AGL RESOURCES, AMERICAN PUBLIC GAS ASSOCIATION,  
CLEAN ENERGY, NATURAL GAS VEHICLES FOR AMERICA, INC. and  
WESPORT INNOVATIONS, INC.**

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1200 New Jersey Avenue, SE  
Washington, DC 20590

**RE: Notice of Intent for 2017 and Later Model Year Light Duty Vehicle GHG  
Emissions and CAFE and Interim Joint Technical Assessment Report, Docket ID  
Nos. EPA-HQ-OAR-0799 and NHTSA-2010-0131**

AGL Resources, the American Public Gas Association, Clean Energy, Natural Gas Vehicles for America and Westport Innovations, Inc. (the “Natural Gas Interests”) submit these comments on the September 30, 2010 Notice of Intent and Interim Joint Technical Assessment Report for 2017-2025 Light-duty Greenhouse Gas and CAFE Standards.

AGL Resources is a publicly traded, Atlanta-based energy services company, serving approximately 2.3 million customers in six states. The company also owns Houston-based Sequent Energy Management, an asset manager serving natural gas wholesale customers throughout North America. As an 85-percent owner in the SouthStar partnership, AGL Resources markets natural gas to consumers in Georgia under the Georgia Natural Gas brand. The company also owns and operates two high-deliverability natural gas storage facilities: Jefferson Island Storage & Hub near the Henry Hub in Louisiana and Golden Triangle Storage in Texas.

American Public Gas Association (“APGA”) is the only nonprofit national trade organization representing America's publicly owned natural gas local distribution companies. APGA represents the interests of public gas before Congress, federal agencies and other energy-related stakeholders by developing regulatory and legislative policies that further the goals of its members.

Clean Energy is a publicly traded Delaware corporation, headquartered in California, that is the leading provider of natural gas for transportation in North America. Clean

Energy's customers includes hundreds of fleets in the refuse, transit, port, shuttle, taxi, trucking, airport and municipal fleet markets, fueling thousands of vehicles every day across the United States, Canada and Peru. Clean Energy also owns BAF Technologies, Inc. of Dallas, Texas, a leading provider of natural gas vehicle systems and conversions for taxis, limousines, vans, pick-up trucks and shuttle buses.

Natural Gas Vehicles for America, Inc. ("NGVAmerica") is a national organization dedicated to the development of a growing, sustainable and profitable market for vehicles powered by natural gas or hydrogen. NGVAmerica represents more than 100 companies interested in the promotion and use of natural gas and hydrogen as transportation fuels, including engine, vehicle and equipment manufacturers, fleet operators and service providers, natural gas companies, natural gas producers and government organizations.

Westport Innovations, Inc. ("Westport") is a publicly traded Canadian corporation, headquartered in British Columbia. Westport is engaged in the research, development, and marketing of high-performance, low-emission engines and fuel-injection systems that utilize alternative gaseous fuels such as natural gas, propane, or hydrogen. Westport develops technology and products that enable light, medium, and heavy-duty diesel engines to run primarily on natural gas, giving users an alternative to diesel fuel.

## **I. Natural Gas v. Petroleum**

The Natural Gas Interests note that both the Notice of Intent ("NOI") and the Interim Joint Technical Assessment Report ("JTAR") continue to ignore the real and immediate energy security and greenhouse gas emissions benefits available from natural gas vehicles. Instead, the responsible agencies remain wedded to a regulatory policy – incremental improvements to petroleum fuel consumption -- that further undermines America's energy security and is a distant second-best means of reducing greenhouse gas emissions. Fortunately, the agencies' failure to recognize the security advantages and emissions benefits of natural gas can be remedied, at least as far as this rulemaking is concerned, simply by complying – without exceptions -- with EPA's previous determination that GHG emission compliance determinations must be based on full life-cycle emissions.

### Energy Security

There are only two ways to meet EPCA's goal of reducing U.S. dependence on foreign oil: either burn less petroleum or switch to a domestically produced fuel. And, despite 35 years of rising petroleum imports and the agencies' admission that "the need to reduce energy consumption is more crucial today than it was when the Energy Policy and Conservation Act was enacted" (JTAR 1-1), they continue to advance a failed policy of incremental improvements in burning imported petroleum. Ignoring a 100% North American-produced transportation fuel in favor of marginal improvements in petroleum fuel economy is a security policy doomed to fail. Assuming that petroleum-fueled vehicles can manage an annual 4% increase in fuel economy over the life of this

program means that in 15 years we will have reduced U.S. gasoline consumption by 18%. Reducing gasoline consumption roughly 1% a year is too little, too late.

This certain failure of the agencies' plan leaves only fuel switching as a realistic alternative. And the most abundant, efficient and secure replacement is natural gas. The U.S. and Canada supply 99% of U.S. natural gas demand, and unlike U.S. oil reserves, U.S. gas reserves are growing. The fact that estimates of domestic reserves and potential reserves have grown in the past decade means we are finding and producing more gas here in the U.S. Estimates from the Potential Gas Committee and the Energy Information Administration indicate domestic supplies are sufficient to meet demand for more than 100 years. As recently as several years ago, this estimate was 65 years. Much of the increase in projected resources is due to the development of shale gas. Given this volume of potential natural gas, the U.S. theoretically has more than enough domestic natural gas to fuel the entire 2025 light-duty fleet.

Relying on foreign oil undermines more than US energy security – it undermines our economy as well. The U.S. current account deficit for the most recent quarter was \$123 billion, during which time we imported \$90 billion of petroleum. In contrast, producing and distributing natural gas as a transportation fuel means creating jobs here in America, which the May 21 Presidential Memo described as one of the central goals of this rulemaking. In 2008, U.S. production of 20 Tcf of natural gas created more than 1.3 million jobs (IHS Global Insight 2009, p.1); even a modest increase in demand for natural gas as a transportation fuel could create tens of thousands of jobs associated with producing natural gas. A significant push to increase the number of NGVs in the U.S. also would create hundreds of thousands of additional jobs related to manufacturing natural gas vehicles and building the relevant infrastructure.

Moreover, natural gas vehicles are just as available as the natural gas itself. Worldwide, there are more than 12 million natural gas vehicles on the road today. In the last seven years, the market for NGVs has more than tripled, thanks to a compound growth rate of over 17 percent per year. In 2005, the IANGV forecast that, by 2020, there will be 65 million NGVs on the world's roads. For 2010, there are 20 percent more NGVs than the 2005 forecast anticipated. The recent consulting group (Global Industry Analysts, Inc.) forecast of 28 million NGVs by 2015 is actually higher than the 2005 IANGV forecast for 2015. The vehicles outside the U.S. are made by, among others, Ford, GM, Toyota, Honda, Nissan, Hyundai, Fiat, Volkswagen and Mercedes. For example, Fiat makes 14 separate NGV models, and more than 100,000 NGVs were sold in Italy in 2009, comprising some 7% of the new vehicle market. Demand for U.S. NGVs would thus give domestic manufacturers a base upon which to build an export market. And another economic opportunity exists in converting existing petroleum vehicles to run on natural gas, yet another well-established technology that can further job creation here at home.

In sum, the only way to meet EPCA's statutory mandate is by beginning to move the U.S. light-duty vehicle fleet to natural gas as a complement to other advanced

technology and alternative fuel vehicles, a policy which will also significantly assist the U.S. economy.

### Greenhouse Gas Emissions

On a lifecycle basis, which accounts for upstream emissions, natural gas vehicles have 30% less GHG emissions than their gasoline-powered counterparts. California Energy Commission 2007 (CEC-600-2007-004-REV), p. 30. (The Natural Gas Interests agree with EPA's position that full lifecycle accounting is necessary for determining both actual emissions reductions and vehicle compliance. 75 FR 25488; 75 FR 25426-37.)

Moreover, natural gas is getting even cleaner, as renewable natural gas (biomethane from landfills and other sources) comes on line. Biomethane achieves nearly a 90 percent reduction in GHGs compared to gasoline, and U.S. biomethane production is increasing, with DOE's National Renewable Energy Laboratory estimating future production of up to 16 billion gasoline gallons equivalent. 74 FR 24982. And while natural gas is getting cleaner, petroleum fuels are getting dirtier as more are refined from tar sands, which EPA agrees has a staggering increase – more than 80% -- in upstream GHG emissions. July 16, 2010 letter from EPA Assistant Administrator Cynthia Giles to Assistant Secretary of State Jose Fernandez, p. 2.

Not only will natural gas continue to improve its GHG profile, but the efficiency of natural gas vehicles will also continue to improve as the result of technological advances. In fact, NGVs will benefit equally from the very same advances in gasoline vehicle technology heralded by the agencies. The vast majority of these improvements, whether “vehicle technology”, “transmission technology”, “engine technology” or “vehicle electrification” can be used on natural gas vehicles to further lower their GHG emissions. Mass and drag reduction, low-friction lubricants, cylinder deactivation, variable valve timing, continuous variable transmissions, etc., will have the exact same effect of reducing fuel consumption for natural gas vehicles as they do for petroleum ones. And, of course, the same is true for hybrid technology, where natural gas hybrids will use electric-drive technology similar to that used today, only natural gas will be the power source rather than gasoline. In fact, HK Motors plans to begin producing a family of light-duty natural gas hybrid-electric passenger vehicles at its Alabama plant in 2013.

Moreover, in one critical area of this technology, NGVs are clearly superior to petroleum versions. The JTAR presents mass reduction as the single largest component for increasing petroleum fuel economy and reducing GHG emissions, but at the same time admits that “the agencies believe that the effects of vehicle mass reduction on safety should be evaluated from a societal perspective (including an analysis of fatalities and casualties) which could affect the maximum levels used for rulemaking.” JTAR 3-8. The advantage of natural gas vehicles is that they already reduce GHG emissions and displace petroleum without downsizing or reducing weight. If safer ways to reduce vehicle weight are developed, however, these improvements will also benefit NGVs.

### EV Challenge(s)

As noted above, natural gas vehicles will share the GHG emissions benefits of hybrid technology, but the Natural Gas Interests are deeply concerned by the agencies' continued "fixation" on EVs (and, to a lesser extent, PHEVs). First, the agencies fail to acknowledge that almost 50% of U.S. grid electricity is produced by coal-fired generation, which have the highest GHG emissions of any power plants. (In fact, the word "coal" does not appear anywhere in the JTAR.)

The agencies posit scenarios of 2025 fleet average GHG emissions of between 143 and 190 g/mi, apparently without considering the fact that a mid-sized EV today has 180 g/mi of upstream GHG emissions (75 FR 25435), and without a word of discussion as to how that number might change by 2025. In fact, EPA's consistent refusal to impose GHG emission limits on power plants implies that there will be no change in that figure.

Second is the sheer cost of EVs. According to the JTAR, in 2012 battery packs for an E75 and E150 will cost \$14,000 and \$27,000, respectively, and the agencies predict that by 2025 these costs will be reduced to "only" \$4,000 and \$9,000. Nor does this include the cost of EV infrastructure.

It is simply not realistic to believe that the U.S. will meet its national greenhouse gas and oil displacement goals through an EV strategy alone.

## **II. Life-Cycle GHG Emissions.**

The NOI seeks comment on the treatment of upstream GHG emissions in compliance calculations, which EPA describes as "an important issue" for the forthcoming rulemaking. 75 FR 62749. The Natural Gas Interests strongly support the inclusion of full life-cycle GHG emissions in the compliance calculations for all petroleum and non-petroleum-fueled vehicles, and believe that full life-cycle accounting for GHGs is the only legitimate basis upon which EPA can make the regulatory decisions entrusted to them by Congress under the Clean Air Act.

Not only should upstream emissions be so treated, but **EPA has already decided in the 2012-2016 Rule – after full notice and comment -- that these emissions are a necessary part of calculating compliance for EVs, PHEVs, and FCVs.** After excluding the first 200,000 such vehicles made by each manufacturer (discussed more fully below), "a given manufacturer in MY 2012–2016 would have its compliance values calculated according to a methodology that accounts in full for the net increase in upstream GHG emissions." 75 FR 25436. EPA's compliance methodology will take the full upstream GHG value, and then "subtract[] the upstream GHG emissions of a comparable . . . gasoline vehicle." 75 FR 25437. Having already decided that upstream emissions must be included in the compliance values, the Natural Gas Interests do not believe that there is any policy rationale that would support reversing this decision; indeed, doing so less than a year later would be arbitrary and capricious.

EPA stated that it intends to evaluate this issue "based on the status of commercialization of EVs, PHEVs, and FCVs, the potential of these technologies to provide long-term GHG emission savings, the status of and outlook for upstream GHG

control programs, and other relevant factors.” 75 FR 62749. As described above, EVs and PHEVs simply cannot provide sufficient long-term GHG emissions savings because they merely shift their GHG emissions from tailpipes to upstream sources that EPA has refused to control.

Finally, the Natural Gas Interests do not believe EPA has the authority under Section 202 or elsewhere in the Act to exempt any number of vehicles from the upstream requirement, or otherwise create an “incentive program” to favor the production of any particular vehicle or technology. In the initial light-duty rule, EPA stated “The purpose of these provisions is to provide a temporary incentive to promote technologies which have the potential to produce very large GHG reductions in the future, but which face major challenges such as vehicle cost, consumer acceptance, and the development of low-GHG fuel production infrastructure.” Even if such a program were legal, there is certainly no basis for continuing such a “temporary” program beyond the five years of the initial rule, or to otherwise favor EVs over other technologies.

### **III. Other Vehicle and Fuel Standards.**

The Natural Gas Interests support EPA’s assessment of the need for further strengthening of standards for gasoline fuel quality and emissions from light-duty vehicles. 75 FR 62750. In particular, EPA should revisit the 2007 Mobile Source Air Toxics Rule with the goal of further reductions in such emissions. Natural gas vehicles have extremely low toxic emissions, and are one of the pathways to achieving important public health benefits.

### **Conclusion**

There is no silver bullet, panacea technology or fuel that will solve our national greenhouse gas or oil displacement goals. We must take advantage of all available options. EPA must recognize that no other option – let alone mature technology-- provides the energy security, environmental and economic benefits inherent to natural gas. In contrast, the agencies’ policy of incremental improvements to petroleum vehicle fuel economy will fail to reduce U.S. gasoline consumption while forfeiting a critical opportunity to reduce greenhouse gas emissions and bolster the U.S. economy.

In order to begin to take advantage of the benefits of natural gas, in this rulemaking the agencies need do no more than acknowledge that natural gas vehicles displace foreign oil on a gallon-for-gallon basis, and then adhere to EPA’s previous determination that emission compliance determinations must be based on full life-cycle GHG emissions, with no further exceptions to this policy. In short, the Natural Gas Interests seek no more than a level (and legal) playing field.

We look forward to continued work with the agencies on these rules.

Sincerely,

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