NGVAMERICA
Natural Gas Vehicles for America

STATEMENT OF NGVAMERICA

UNITED STATES SENATE

ENERGY AND NATURAL RESOURCES COMMITTEE

Opportunities for, current level of investment in, and barriers to the expanded usage of natural gas as a fuel for transportation

July 24, 2012

Introduction

NGVAmerica is pleased to offer the following written statement with regard to this hearing. NGVAmerica is a national organization dedicated to the development of a growing and sustainable market for vehicles powered by natural gas and biomethane. NGVAmerica represents more than 150 companies, including: vehicle manufacturers; natural gas vehicle component manufacturers; natural gas distribution, transmission, and production companies; natural gas development organizations; environmental and non-profit advocacy organizations; state and local government agencies; and fleet operators.

The purpose of the Committee's hearing on July 24, 2012 is to receive testimony concerning opportunities for, current level of investment in, and barriers to the expanded usage of natural gas as a fuel for transportation.

Natural Gas Vehicles Should be a Part of Future Energy Legislation

Today, natural gas vehicles (NGVs) are uniquely positioned to help the United States achieve a number of critical policy objectives. The increased use of natural NGVs can reduce our dependence on foreign oil while reducing greenhouse gas emissions and urban pollution. And, equally important, increased use of NGVs will benefit the economy by stimulating demand for domestic natural gas and by lowering fuel cost to businesses, fleets and consumers that operate NGVs. Future energy legislation that is intended to reduce reliance on oil consumption should explicitly promote the use of NGVs. Both the House and Senate have introduced a number of energy bills that promote the increased use of alternative fuel vehicles. Some of these bills, like the New Alternative Transportation to Give Americans Solutions (NAT GAS) Act of 2011 (S. 1863, HR 1380), are targeted specifically to NGVs. We urge the committee members to work to ensure passage of the NAT GAS Act before the 112th Congress comes to an end, and ensure that any future legislative actions by this Congress include policies that promote NGVs. We also urge Congress to remove federal barriers that are slowing the use of NGVs.

Reducing Reliance on Foreign Oil

Reliance on foreign oil exacts a high toll on the U.S. in terms of direct economic costs and indirect energy security costs. In the past three years (2009 – 2011), the US spent nearly $760 billion on imported petroleum. More recently, the tab for imported oil has been much higher as oil prices hover between $85 and $100 per barrel. In the coming decade, the EIA forecasts total expenditures for petroleum imports to top $3.4 trillion dollars.[1] The *High Oil Case* estimates that expenditures for oil will exceed $4.5 trillion dollars. This wealth transfer, as Boone Pickens likes to say, is quite possibly the largest wealth transfer in history. Our reliance on oil not only affects our trade balance but makes the U.S. vulnerable to price spikes and supply disruptions. And high oil prices result in a windfall for regimes that may not be friendly to the U.S.

Fortunately, the U.S. has an unprecedented opportunity to displace petroleum with domestic natural gas. As President Obama recently declared, the U.S. is "the Saudi Arabia of natural gas." The EIA, the Potential Gas Committee and other expert bodies now estimate that the U.S. has up to a 100 year supply of natural gas. The Potential Gas Committee's 2011 bi-annual report indicates that the U.S. now has a total future supply of 2,170 trillion cubic feet of natural gas. The 2011 report includes the highest resource estimate in the Committee's history. The availability of this significant domestic resource provides an unprecedented opportunity to solve a number of pressing national objectives like transforming the transportation sector.

Increasing the use for natural gas in transportation will keep our economy growing by supporting new jobs and economic development. In 2008, U.S. production of 20 Tcf of natural gas supported nearly 3 million jobs.[2] In his State of the Union remarks before Congress, the President indicated that new development of natural gas could result in 600,000 new jobs in this decade alone. Thus, increasing demand for natural gas as a transportation fuel will help put more people to work and ensure that we put this natural gas to good use, here where it can have the most benefit for U.S. energy users.

Natural gas benefits our economy because it is a low cost energy that helps businesses grow while at the same time controlling costs. Natural gas is priced much lower than

[1] See EIA, *2012 Annual Energy Outlook*, Table 11 (*Reference Case*).
[2] "The Contributions of the Natural Gas Industry to the U.S. National and State Economies," IHS Global Insight 2009, p.1.

petroleum. The two fuels no longer track one another -- and haven't for many years. The current future contract price for natural gas (NYMEX August) is approximately $3 per million Btu, which equates to a per-barrel of oil price of only $17.40 while oil is trading at close to $90 a barrel. The low price of natural gas translates into significant savings for fleets and consumers who use natural gas to fuel their vehicles. In most areas of the country, natural gas sells at about a $1.50 discount compared to gasoline and diesel fuel. EIA's long-term forecast projects that differential between natural gas and petroleum fuels will remain as high as $2 per energy-equivalent unit.

The Opportunity for NGVs

NGVAmerica believes that there could be a substantial market for NGVs in all applications. However, the most immediate opportunity for displacing petroleum and increasing the use of natural gas as transportation fuel lies with light-, medium- and heavy-duty *fleets* – especially trucks, buses and other heavier vehicles.

Today, the U.S. only has about 120,000 NGVs. Vehicle demand has been growing, but slowly. However, because of the large fuel use per-vehicle, the amount of natural gas used (and petroleum displaced) has been increasingly at a robust pace. NGVAmerica estimates that, in 2010, NGVs used about 43 billion cubic feet of natural gas. That is the equivalent of about 320 million gallons of gasoline that was not imported, and a savings in overseas expenditures of about a billion dollars.

The U.S. currently leads the world in offerings of new medium- and heavy-duty NGVs. In the past several years, virtually all the major truck and bus manufacturers in the U.S. have begun offering factory-built NGVs. The impressive list of manufacturers includes: Kenworth, International/ESI, Peterbilt, Mack, American LaFrance/Condor, Crane Carrier, AutoCAD Truck, Capacity, Thomas Built Bus, Blue Bird Bus, Optima, NABI, El Dorado, New Flyer, Daimler/Orion, Freightliner, Gillis, Workhorse Chassis, Elgin, Allianz/Johnston, Schwarz, and Tyco. Major successes in terms of market penetration: NGVs made up 40 percent of all refuse trucks ordered in 2011, and 30 percent of transit bus orders. While these markets are still relatively small in terms of overall sales, it does point to the inroads natural gas vehicles are making. The future of natural gas as a transportation fuel is likely tied to its ability to gain traction in the heavy-duty short-haul and over-the-road trucking market. Some

of the most exciting developments underway for NGVs are in this market. Trucks are the economic lifeblood of America. Everything we buy moves by truck. Reducing the cost of trucking by using less-expensive natural gas reduces the cost of everything, benefiting businesses and consumers alike.

The current picture regarding light duty vehicle development is somewhat different. NGVs are not yet economic for most owners of light-duty vehicles. The primary reason is that these vehicles have higher initial purchase costs than conventionally fueled vehicles, but are not driven enough miles or consume enough lower-cost fuel for the fuel cost savings that they offer to offset this higher purchase cost in a reasonable number of years. That being said there are some high-fuel use applications, like taxicabs and delivery vehicles, where light duty NGVs already make economic sense. Reductions in cost spurred on by increased production and technology improvements are likely to improve the future prospects of NGVs in the light duty market.

Outside the U.S., demand for NGVs is growing at a rapid pace, and much of this growth is in the light-duty vehicle market. In the last seven years, the global market for NGVs has more than tripled with a compound growth rate of over 17 percent per year. In fact, NGVs are the fastest growing alternative to petroleum vehicles in the world. In 2003, there were only about 2.8 million NGVs globally. Today, there are over 15 million NGVs in operation worldwide. This rapid growth points to the fact that rapid scaling up of NGVs is possible. The NGV Global (the international NGV association) forecasts that, by 2020, there will be 65 million NGVs on the world's roads. Unfortunately, the U.S. currently ranks 17th in the world in total number of NGVs – despite having more vehicles on the road than all the other sixteen countries combined.

As noted above, most of the new NGVs sold outside the U.S. are light-duty vehicles. In many countries, tax and other government policies help make NGVs even more economically attractive to consumers. As a result, in overseas markets, NGVs are now available from almost all major OEMs, including: Ford, GM, Toyota, Honda, Nissan, Hyundai, Fiat, Volkswagen and Mercedes. In 2009, Fiat offered 14 separate NGV models, and more than 100,000 NGVs were sold in that year in Italy alone, comprising some 7 percent of the new vehicle market. Most U.S. manufacturers

currently offer NGVs in Europe, South America and Asia, but only Honda currently offers a light-duty OEM NGV product in the U.S. -- the Honda Civic Natural Gas. General Motor currently offers the GMC medium-duty Savana and Chevrolet Express vans as fully-backed, factory produced NGVs rated above 8,500 lbs. GVWR. This summer, General Motors and Chrysler will begin offering OEM built and warranted natural gas powered pickup trucks. As these offerings show, U.S. automakers certainly have the capability to produce NGVs – *IF* the proper incentives are in place.

Recent events are clearly pointing to a viable domestic market for light-duty NGVs. We are particularly encouraged by the unprecedented Memorandum of Understanding (MOU) concerning NGVs that has now been signed by 13 state governors. The MOU urges U.S. automakers to expand their offerings of NGVs and attempts to stimulate the market for such vehicles by signaling the intent of these states to purchase NGVs. As noted above, in just the past two years, GM and Chrysler have announced plans to produce NGVs for the U.S. market. Honda also has expanded its production capacity for the Honda NGV offering, and is now marketing the car to consumers as well as fleets. Another telling factor is the significant growth in the aftermarket offerings here in the U.S., where nearly a dozen manufacturers offer systems to retrofit light-duty vehicles to operate on natural gas. These offerings include systems for the Fusion, Focus, Impala, Malibu, Milan, Transit Connect, in addition to a variety of popular pickup truck offerings. Ford, while not offering a factory NGV, has been working closely with the aftermarket industry to ensure that aftermarket systems offered for its vehicles meet its demanding standards for quality. These activities clearly show that there is very strong interest in bringing more NGV products to the U.S. passenger car and light-duty segment.

Investments in Fueling Infrastructure

Natural gas fueling infrastructure development is once again on the rise, recently exceeding 1,000 stations. More importantly, major industry players such as Apache Corporation, Clean Energy Fuels, Chesapeake Energy, and Shell Oil have recently committed hundreds of millions in new capital toward the development of natural gas fueling infrastructure. The largest of these announcements include deals to develop liquefied natural gas (LNG) fueling at Flying J and Travel Centers of America (TA) truck stops across the country. These efforts will soon make it possible for LNG

trucks to serve most major areas of the country. President Obama's *Blueprint for Energy*, announced on January 26th, also calls for development of natural gas corridors.

Barriers to Increased Use of NGVs

As just noted, the most significant barriers to increase use of NGVs are starting to come down. Those barriers have historically been a lack of vehicle offerings and limited fueling infrastructure. Automakers and investors are starting to address these issues. Economics also has been a barrier in times when oil prices have plummeted. The current outlook, however, appears to favor the long-term economic viability of natural gas as a transportation fuel.

Barriers do continue to exist, however. Building out a national fueling infrastructure to support a new fuel is a daunting task. It requires enormous capital and a belief that the demand for the new fuel will materialize. Other policies and incentives are necessary to support the investments being made by businesses and fleets.

Here is a list of the some of the federal barriers that continue to exist:

- Inequitable tax treatment of LNG. Today, LNG pays an effective excise tax rate or $0.41 per diesel gallon equivalent versus $0.243 for diesel fuel. LNG has less energy per gallon than diesel and it takes 1.7 gallons of LNG to equal the energy content in one diesel gallon. This discrepancy increases the taxes paid by fleets and reduces the economic benefit of switching to natural gas. From a budgetary standpoint fixing this issue should not be a problem because the impact is neutral since energy diesel gallon equivalent of LNG that is used would pay $0.243 -- just like every diesel gallon.
- Higher FET taxes on natural gas trucks. Natural gas trucks currently cost more than diesel trucks, in some cases $30,000 - $60,000 more. And since the federal excise tax on trucks (12% tax) is imposed on the full cost of a truck, natural gas trucks pay a much higher tax than comparable diesel trucks. The effect of this provision is to increase the cost of a new natural gas truck by several more thousand dollars.
- EPA & NHTSA Regulations. The U.S. EPA and NHTSA recently have proposed or finalized new fuel efficiency and greenhouse gas emission

standards for motor vehicles. In most cases, these rules provide added incentives for manufacturers who produce electric vehicles or other advanced technology vehicles, but they do not currently provide incentives for NGVs. To EPA's and NHTSA's credit, the proposed light duty 2017–2025 regulations do include some incentives for NGVs but these incentives still fall short of providing equitable treatment. The natural gas industry has provided extensive comments to the agencies regarding these rulemakings and is hopeful of a favorable outcome in the 2017-2025 rulemaking. However, the agencies should reopen the now finalized heavy-duty rulemaking in order to provide equitable incentives for NGVs.

- Federal fleet programs. The federal government purchases thousands of vehicles each year. Federal policies currently favor purchase of flexible fueled vehicles and hybrid-electric vehicles. These vehicles are largely fueled by petroleum. Most federal agencies do not operate their flexible fueled vehicles on ethanol. Moreover, hybrid electric vehicles, while recently classified as alternative fuel vehicles, rely 100% on petroleum for their motive fuel. The federal government should join with the state governors and start placing orders for NGVs.
- Research and development programs. The federal government currently has no ongoing research and development efforts to secure advancements in the use of NGVs. ARPA-E's recently announced awards for $30 million in new funding for NGV projects. However, this effort, while important, represents only a very small investment relative to the hundreds of millions that are going to support biofuels and electric vehicles. Moreover, the ARPA-E funding is a one-time only opportunity. The lack of a standing R&D program for NGVs signals to industry and the market that the federal government is not interested in facilitating the use of NGVs.
- Federal tax incentives. There currently are no federal tax incentives for NGVs. Previous incentives have expired and the Congress has not acted on legislation to revise or extend these incentives. Electric vehicles, however, continue to benefit for a $7,500 tax credits. The $7,500 tax credit provides a huge incentive for manufacturers to offer electric vehicles because it only phases out after 200,000 (per manufacturer) of these vehicles are sold. That equates to $1.5

billion in tax credit incentives per manufacturer! Congress needs to provide similar incentives for light-, medium- and heavy-duty NGVs.

Why NGVs need incentives

Currently, NGVs cost more to buy than comparable gasoline or diesel powered vehicles. But they cost less to operate. The more miles a vehicle is driven each year, the faster the payback and the more likely the owners can justify the investment in NGVs. For some of the most fuel intensive fleets and vehicle applications, NGVs already are economic. However, to expand the use of NGVs and maximize NGVs' oil displacement potential, the first-cost or incremental cost of NGVs needs to be brought down rapidly. And this will only happen with large scale production and increased economies of scale. The NAT GAS Act (S. 1863, HR 1380), provides the means to accelerate demand for NGVs and to help manufacturers achieve economies of scale and build-out much needed fueling infrastructure. The cost of these incentives is scored at roughly $5 billion. The Senate version, however, includes a pay-for provision that over-time compensates the federal budget for the cost of the incentives by imposing fees on NGV users. Whether it is paid for via this fee or not, the investment in NGVs makes sense when compared to the trillions that will be spent on imported oil.

NGVs do not need technical breakthroughs to capitalize on the potential of natural gas as a transportation fuel. What is needed most is to grow demand for these vehicles faster. Federal leadership in leading in breaking down barriers and providing incentives will make this happen. Congress can help jumpstart that growth.

Conclusion

The U.S. has an unprecedented opportunity to displace petroleum with domestic natural gas. Now is the time to act to encourage the increased use of natural gas vehicles. We have an abundant supply of readily available, low-cost domestic natural gas. The fact that this fuel is domestic, low-cost, and clean means that America can achieve multiple national goals (energy security, clean air, economic security) all the while helping fleets and businesses to lower their costs, thus improving economic prosperity. Today, nearly every major truck or bus manufacturer in the U.S. is now offering factory-built NGV models. Federal policies and incentives, however, are

needed to aid in the successful market penetration of these vehicles and to help accelerate their use so that the benefits of increased natural gas use can be realized.

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