



STATEMENT OF NGVAMERICA

UNITED STATES HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON SELECT REVENUE MEASURES AND
SUBCOMMITTEE ON OVERSIGHT

WAYS AND MEANS COMMITTEE

Joint Hearing on Energy Tax Policy and Tax Reform

September 22, 2011

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 130 member companies, including: vehicle manufacturers; natural gas vehicle (NGV) 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 hearing is to receive testimony concerning energy tax policy and tax reform. As part of this review, the subcommittees specifically requested comments on H.R. 1380, the New Alternative Transportation to Give Americans Solutions (NAT GAS) Act of 2011.

Framing the Debate

Among the national goals on which there appears to be widespread and bipartisan support is using less imported petroleum in our vehicles and, instead, using more domestically produced fuels that are abundant, lower in cost, and less polluting. However, there is far less agreement on how to achieve these goals. The more contentious questions are: Does the federal government have a role in encouraging these outcomes? And, if it does have a role, what is that role? Some have argued that the federal government should have no role. They argue that the federal government should not pick “winners and losers.” Rather, they argue, the decision as to energy use in transportation should be left to the “free market”. NGVAmerica strongly believes that this position is wrong.

First, when it comes to petroleum transportation fuel, there is no “free market.” A free market is one that is not controlled or regulated by government. The simple fact is that the global petroleum supply *is* controlled by governments. OPEC, with its 12 member states, manipulates the price of the world’s petroleum all the time. That is its purpose. In addition, 28 non-OPEC countries, including the United States, also exercise some control over petroleum prices via the mechanisms of the International Energy Agency. Most recently, in response to the Libyan political crisis and concerns about higher oil prices, IEA member states agreed to a coordinated release of emergency stocks of 60 million barrels to reduce the price of petroleum on the world market. To say that the alternatives to petroleum must evolve in the “free market” while the overwhelmingly dominant competitor continues to have its price

manipulated by governments is to turn over control of America's transportation future to OPEC. This is not wise policy.

The second argument – that Congress should not pick winners and losers – also is wrong. ***Of course*** Congress should pick a loser. That loser is foreign oil. And Congress should also pick a winner. That winner is domestic energy. It has been America's explicit national policy since the Nixon Administration to reduce our dependence on foreign oil. And, to help achieve that goal, for decades Congress has encouraged the production of domestic fuels – including the domestic production of oil and gas -- through a host of policies. That has been wholly appropriate. However, an important complement to this national ***production*** policy is a national ***use*** policy, namely, to also temporarily improve the relative economics of domestic fueled vehicles vis-à-vis gasoline and diesel fueled vehicles – especially fuels and vehicle technologies that have the real prospect of displacing substantial quantities of foreign oil in the near-, mid- and long-term. Of all the available options, natural gas vehicles can deliver the most immediate and largest impact.

Today, natural gas vehicles are economic in certain niche market applications and they have the real prospects of being economic to a much larger segment in the near future. With the right incentives and policies in place – such as those included in the NAT GAS Act – we can accelerate this growth and maximize their impact.

Benefits of Natural Gas Vehicles

Today, natural gas vehicles are uniquely positioned to help the U.S. achieve a number of critical policy objectives. Natural gas is domestically abundant, and the increased use of natural gas vehicles can reduce our dependence on foreign oil while reducing greenhouse gas emissions and urban pollution. Equally important, increased use of natural gas vehicles will benefit the economy by creating jobs and by lowering fuel cost to businesses, fleets and consumers that operate natural gas vehicles.¹

Providing Energy Security Benefits

Reliance on foreign oil exacts a high toll on the U.S. in terms of direct economic costs and indirect energy security costs. It is estimated that the U.S. currently spends over \$1 billion per day on imported petroleum. In the coming decade, the U.S. Energy

¹ Almost all goods (and many services) move by truck. As the cost of gasoline and diesel rise, so does the cost of all those goods and services. Rising petroleum prices are a hidden tax on everyone, and contribute to increased inflation. Conversely, lowering the cost of operating trucks through the use of natural gas would have ameliorating effect on prices and inflation. A tax reduction, if you will.

Information Administration (EIA) forecasts that total expenditures for petroleum imports could top \$3.3 trillion dollars.² Our reliance on foreign oil not only affects our trade balance but makes the U.S. vulnerable to price spikes and supply disruptions and contorts our foreign and military priorities. Further, high oil prices result in an economic windfall for many regimes that are not friendly to the U.S.

Fortunately, the U.S. has an unprecedented opportunity to displace petroleum with domestic natural gas – primarily in the transportation sector. In the past several years, a wealth of new data has demonstrated that the U.S. has (and will continue to have) an abundant supply of readily available, economically priced natural gas. EIA, the Potential Gas Committee and other expert bodies now estimate that the U.S. has more than 100 years supply of natural gas – and that number keeps growing even as we produce more each year. 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.³ This is 89 Tcf more than what was estimated in the 2009 report. As was the case with the 2009 report, the 2011 report’s resource estimate was the highest in the Committee’s history. This increase in the estimated resource base has been matched by increases in production. In 2009, the U.S. became the number one natural gas producer in the world.

Providing Economic Benefits

Increased demand for natural gas helps to 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.⁴ 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. Encouraging more natural gas vehicles also will stimulate economic activity associated with manufacturing natural gas cars, trucks, and buses and also installing new natural gas fueling stations. Natural gas also 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 petroleum. The two fuel’s prices no longer track one another and have not for a number of years. The future prices for natural gas have traded at less \$4.50 a million Btu for nearly all of

² See EIA, *2011 Annual Energy Outlook*, Table 11 (April 2011)

³ PGC has been estimating natural gas supplies for 46 years.

⁴ “The Contributions of the Natural Gas Industry to the U.S. National And State Economies”, IHS Global Insight 2009, p.1

2011. A natural gas price of \$4.50 per MMBtu equates to a per-barrel oil price of roughly \$26.10 at a time when oil is trading at \$90 - \$100 a barrel. At the time this statement was prepared, the future contract price for natural gas was trading at less than \$4.00 MMBtu or roughly \$23.20 per barrel of oil equivalent. Because of the abundant supply of natural gas that exists here in the U.S., natural gas prices relative to oil prices are expected to remain much lower in the coming years. This means that natural gas when used as a transportation fuel will continue to be competitive with gasoline and diesel for the foreseeable future. In fact, the EIA estimates that the differential between diesel fuel and natural gas for transportation could be as much as \$2 per diesel gallon equivalent in the future.

One of the concerns raised by some large users of natural gas is that a growing natural gas vehicle market will cause natural gas prices to spike. This concern is unfounded. In 2010, it is estimated that natural gas vehicles displaced 320 million gallons of gasoline. With the incentives from the NAT GAS Act, the natural gas vehicle industry forecasts that natural gas vehicles could displace 10 *billion* gallon of gasoline per year. This would consume about 1.25 trillion cubic feet of natural gas, or an increase in natural gas use from 2010 levels of 5.2 percent. It should be noted that since 2006, natural gas consumption in the U.S. has increased by 9.6 percent while the price at the wellhead has dropped by one-third (an average of \$6.39 in 2006 to \$4.24 July 2011). Because of the huge additions to America's natural gas resource base experienced and expected in the future, the concerns about natural gas vehicles causing natural gas prices to spike are groundless.

Providing Environmental Benefits

The same clean burning properties that make natural gas an excellent fuel for traditional applications like electricity generation, heating, and industrial applications, also make it an excellent fuel for transportation. Natural gas burns cleaner than gasoline and diesel fuel, and most other transportation fuels as well. Not surprisingly, the first vehicles certified to the U.S. Environmental Protection Agency's (EPA) ultra-low emission, super-ultra low-emission and Tier 2/Bin 2 standards were natural gas vehicles. The natural gas-powered Honda Civic GX has won numerous awards for its outstanding environmental performance. In 2011, the Civic GX was rated the "Greenest Car in America" by the American Council for an Energy-Efficient Economy – for an amazing eight year in a row. Compared to the gasoline Civic, the natural gas-powered Civic produces 95 percent fewer emissions of volatile organic compounds and 75 percent less emissions of nitrogen oxides – pollutants that contribute to ozone formation. In fact, the vast majority of light duty natural gas vehicle models currently available (including aftermarket systems) are certified to the

Federal Tier 2/Bin 2 standard; only Bin 1, which requires zero emissions, is more demanding. In the medium- and heavy-duty truck and bus markets, Cummins Westport's and Emission Solutions' natural gas powered engines were the first engines to be certified to the full-2010 federal emission standards, achieving extremely low NO_x emissions levels well ahead of their diesel competition, and with less emission controls required.

The environmental benefits of natural gas vehicles are expected to continue to improve as new automotive technologies become available. As long as the internal combustion engine is with us and as long as refinements to it are made, natural gas will be the cleanest transportation fuel to use in it. A recent National Academy of Science (NAS) report⁵ includes some very positive findings concerning natural gas vehicles. The report, which analyzes vehicle technologies as of 2005 and expected by 2030, projects that, with further expected improvements in vehicle technology and fuel efficiency, natural gas powered vehicles will provide superior benefits in terms of criteria pollutant reductions compared to nearly all other types of vehicles, *even electric and plug-in hybrid electric vehicles.*

Natural gas vehicles also can play a role in reducing greenhouse gas emissions. Per unit of energy, natural gas contains less carbon than any other fossil fuel, and, therefore, produces lower carbon dioxide (CO₂) emissions per vehicle mile traveled. While natural gas vehicles do emit methane, another principal greenhouse gas, the increase in methane emissions is more than offset by a substantial reduction in CO₂ emissions compared to other fuels. The California Air Resources Board (CARB) has conducted extensive analyses on this issue, and concludes that burning compressed natural gas produces about 22 percent less GHGs than burning diesel, and 29 percent less than burning gasoline.⁶ The comparisons are based on well-to-wheels analyses, and include methane emissions. These reductions are equal to -- or better than -- some renewable liquid fuels.

Translating Opportunity into Advantage

How should America use its natural gas abundance? Market price signals tell us that transportation fuel and vehicles are the highest valued application of all natural gas

⁵ *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use*,

⁶ See California Low Carbon Fuel Standard; http://www.arb.ca.gov/fuels/lcfs/121409lcfs_tutables.pdf.

uses. Outside the U.S., demand for natural gas vehicles is growing at a rapid pace. In the last seven years, the market for natural gas vehicles has more than tripled with a compound growth rate of over 17 percent per year. In fact, natural gas vehicles are the fastest growing alternative to petroleum vehicles in the world. In 2003, there were only about 2.8 million natural gas vehicles globally. Today, there are over 13.2 million natural gas vehicles in operation worldwide. The International NGV Association forecasts that, by 2020, there will be 65 million natural gas vehicles on the world's roads. This significant growth points to the fact that rapid scaling up of natural gas vehicles is possible. Unfortunately, the U.S. currently ranks fourteenth in the world in total number of natural gas vehicles. It's unfortunate but true that the number one natural gas producer in the world ranks fourteenth in terms of natural gas vehicle use.

Most of the new natural gas vehicles sold outside the U.S. are either conversions of light-duty gasoline vehicles or are produced by light duty OEMs, including: Ford, GM, Toyota, Honda, Nissan, Hyundai, Fiat, Volkswagen and Mercedes. Fiat alone makes 14 separate natural gas vehicle models, and more than 100,000 natural gas vehicles were sold in Italy in 2009, comprising some 7 percent of the new vehicle market. Most U.S. manufacturers currently offer natural gas vehicles in Europe, South America or Asia, but only Honda currently offers a light duty OEM natural gas vehicle product in the U.S. -- the Honda Civic GX. GM also offers a medium-duty, CNG powered panel van for fleets.

For a number of reasons, including the sheer geographic size of America, the strategy of the U.S. natural gas vehicle industry has been to initially focus on high fuel-use fleets: trash trucks, transit buses, short-haul 18-wheelers, school buses, urban delivery vehicles, shuttles of all kinds, taxis, etc. Today, the U.S. only has about 120,000 natural gas vehicles. More recently, the natural gas industry has begun to focus on the significant potential of converting a portion of the nation's over-the-road tractor trailer fleet to liquefied natural gas use. Market penetration into this market segment would provide a significant increase in petroleum reductions. Natural gas 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 increasing at a robust pace. NGVAmerica estimates that, last year, natural gas vehicles used about 43 billion cubic feet of natural gas. That is the equivalent of about 320 million gallons of gasoline that was not imported. At today's fuel prices, this represents about a billion dollars not spent on foreign oil.

Fortunately, the U.S. currently leads the world in offerings of new medium- and heavy-duty natural gas vehicles. In the past several years, virtually all the major truck and bus manufacturers in the U.S. have begun offering factory-built natural gas

vehicles. 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. Manufacturers are betting that the U.S. is serious about its desire to displace petroleum demand and increase the use of alternative fuels like natural gas. With proper government policies, like those proposed in HR 1380, sales of these trucks and use of natural gas could grow substantially in the coming years.

NGVAmerica believes that there could be a significant market for natural gas vehicles 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. As noted above, U.S. manufacturers currently offer a large selection of medium and heavy duty vehicles. This is significant since trucks are the economic lifeblood of America. Virtually everything we buy moves by truck. Reducing the cost of trucking reduces the cost of everything, benefiting businesses and consumers alike. That is why our industry has begun to focus on heavy-duty over-the-road trucks. In order to achieve success in this market, our industry must expand the current limited offering of liquefied natural gas trucks.

Another key consideration is that natural gas vehicles are a here-and-now technology. There are no major technological hurdles to overcome. This fact is highlighted by the investments and commitments by fleets already taking place in the market place in the U.S. Examples of how natural gas is helping meet the needs of fleets include:

- AT&T now operates nearly 3,000 vehicles powered by natural gas, and has a goal of expanding the fleet to 8,000 by 2013;
- UPS has more than 1,100 natural gas powered vehicles, and is expanding its fleet of vehicles powered by liquefied natural gas. The company has said it would convert a much larger share of its trucking fleet to liquefied natural gas if the fueling infrastructure and vehicles were more economical;
- The Los Angeles County Metropolitan Transportation Authority, which earlier this year held a retirement ceremony for its last diesel bus, has 2,221 of its buses now running on compressed natural gas. A number of the other smaller transit agencies around the country have successfully switched their entire fleet over to using natural gas. In Washington, DC, the local transit authority

operates nearly 500 natural gas transit buses, and several feeder systems (outlying counties) also operate natural gas buses.

- Ryder System Inc. is purchasing 202 heavy-duty natural gas vehicles that will be used in its Southern California network;
- Waste Management, the largest refuse company in the country, has more than 1,000 vehicles running on either compressed natural gas or liquefied natural gas;
- The Dallas Area Rapid Transit system recently announced it will purchase 452 natural gas powered transit buses – the largest single order of natural gas transit buses currently in place.

Accelerating the Growth of the Natural Gas Vehicle Market

As these fleet examples highlight, natural gas vehicles do not need technical breakthroughs to capitalize on the potential of natural gas as a transportation fuel. What is needed, however, is reduction in the vehicles first cost. Natural gas vehicles currently cost more to buy than gasoline or diesel vehicles, but they cost less to operate. So, the more fuel a vehicle uses, the faster that the first cost premium can be paid back. A payback period of three years is a must for most commercial fleets. For certain fuel intensive fleets, natural gas vehicles are clearly economic today. In other words, they meet that three-year payback threshold. But, for natural gas vehicles to make a much larger contribution to reducing foreign oil use, vehicles that use less fuel per year must also meet that three-year payback threshold. As demand for natural gas vehicles grows, economies of scale and competition are starting to bring down (and will continue to bring down) that first cost. This is happening – but it is happening slowly, and it is mainly happening in niche markets. In order to seize the full potential of natural gas as a transportation fuel, natural gas vehicles must expand into the broader market including the over-the-road truck market where high first-costs and limited offerings of liquefied natural gas trucks are still a significant issue. The intent of the H.R. 1380 is to accelerate demand for natural gas vehicles in order to bring about increased economies of scale and ultimately to displace more foreign oil faster with American natural gas.

Why Passage of the NAT GAS Act is Critical

NAT GAS Act would provide the means to accelerate demand for natural gas vehicles and to help manufacturers achieve economies of scale and build much needed fueling infrastructure. H.R. 1380 would provide federal incentives for the production, purchase and use of natural gas vehicles and the expansion of the natural

gas fueling infrastructure. As proposed, these incentives would be available for only a five-year period. But during that time and thereafter, it would make natural gas vehicles the economic choice for many more fleets and consumers. The NAT GAS Act would accelerate natural gas vehicle use, which, in turn, would bring more natural gas vehicle manufacturers into the market, increase competition and permanently drive down the first-cost premium of natural gas vehicles.

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 natural gas vehicle models. Federal policies and incentives, however, are needed to aid in the more rapid 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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