

July 10, 2012

Summary of Testimony to the Energy & Commerce Committee subcommittee on Energy & Power

ANGA works to promote a policy environment that increases market-driven use of natural gas as a transportation fuel. We especially support efforts to encourage a substantial transition of fleet vehicles to natural gas through policies that encourage natural gas vehicle (NGV) conversions and original equipment manufacturer (OEM) production. ANGA also supports significant expansion of natural gas fueling infrastructure along key transportation corridors throughout North America.

Although the United States has a rich abundance of natural gas energy, less than 0.1% of domestic natural gas in 2010 fueled our nation's vehicles, according to EIA. This remains true despite the fact that there are over twelve million NGVs worldwide today and the number is growing. Only about one percent of those twelve million vehicles are in use here in the United States, despite our vast resources.

Both liquefied natural gas (LNG) and compressed natural gas (CNG) offer fleets the opportunity to improve their environmental footprint, increase use of a domestic resource, and lower overall operating costs, therefore providing a multitude of benefits for both companies and the general public. CNG/LNG also provides new opportunities in emerging nonroad and marine engine applications.

As of June, 2012, there are currently 53 LNG fueling stations in the U.S. serving over 3,300 LNG vehicles. Of the 53 LNG fueling stations, 36 are located in California.

Approximately 100 additional LNG stations are in the planning stages nationwide. 90% of these stations will be located outside of California, significantly improving the geographic distribution of stations and opportunities for an alternative fuel future.

A large nationwide network of CNG fueling stations already exists. Currently, there are over 1,000 CNG stations in the U.S, with 36 states that have at least five CNG stations. About half of the CNG stations are for public use and others are for fleet-specific vehicle use only, although the prevalence of both is increasing. As of June 2012, there were 94 CNG stations currently planned or under development. Recent CNG announcements by retailers such as Love's, Kwik Trip, Flying J, and Clean Energy demonstrate growing mainstream demand for CNG fueling.

At the federal level, ANGA supports efforts to create a level playing field among alternative fuel policies. We agree that it takes an "all of the above" approach to alternative fuels to enhance our energy security.

We encourage the Committee to take a comprehensive technology- and feedstock-neutral approach when evaluating current levels of federal support for alternative fuels among all areas of the federal government, including Executive branch federal fleet performance, federal agency regulatory programs such as CAFE and EPA GHG standards, existing mandates such as the Renewable Fuel Standard, and Research and Development programs.

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Good morning Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee. My name is Tom Hassenboehler and I am here on behalf of America's Natural Gas Alliance. I appreciate this opportunity to express ANGA's views on alternative transportation fuels and vehicles and our comments on HR 1687, the Open Fuel Standard Act of 2011. ANGA is an educational and advocacy organization dedicated to increasing appreciation for the environmental, economic, and national security benefits of North American natural gas. ANGA's 30 members include many leading, North American independent natural gas exploration and production companies. Their collective natural gas output comprises approximately 40 percent of total annual U.S. natural gas production.

ANGA works to promote a policy environment that increases market-driven use of natural gas as a transportation fuel. We especially support efforts to encourage a substantial transition of fleet vehicles to natural gas through policies that encourage natural gas vehicle (NGV) conversions and original equipment manufacturer (OEM) production. ANGA also supports significant expansion of natural gas fueling infrastructure along key transportation corridors throughout North America. These targeted efforts represent the most prudent and efficient means to encourage the development of economies of scale within this market while decreasing emissions, dramatically reducing exportation of domestic capital, and advancing U.S. energy security. Similarly, ANGA is aware of the current challenges in this economic climate and the responsibility at all levels of government to be conservative in its expenditure of public funds. ANGA's efforts emphasize the importance to maintain parity among alternative transportation fuel policies.

ANGA also collaborates with the American Gas Association in the Drive Natural Gas Initiative to advance a common vision of enhancing our national energy security by promoting the development of natural gas vehicles and infrastructure throughout North America. Our joint activities focus on infrastructure development, vehicle production, marketing and education for clean transportation solutions, and targeted advocacy. Our aim is to work in a cooperative and complementary fashion with other stakeholders who share our commitment to promoting natural gas vehicles and clean, American transportation solutions.

Supply and Demand

Natural gas vehicles represent a tremendous energy security and environmental opportunity for the United States. With the advent of new technologies and the advancement of shale gas production, the United States has now surpassed Russia as the world's top producer of natural gas, according to the EIA.¹ Indeed, in the last decade alone, the Potential Gas Committee estimates of natural gas resources have increased by more than 70 percent, almost all from shale gas. EIA estimates of natural gas resources increased by 86 percent over a three-year period. The size of the resource could increase further as exploration and technology advances continue to provide more information, something which has already been observed in Alaska, in the Gulf of Mexico, and in other newly accessed resource basins.

¹ [The U.S. surpassed Russia as world's leading producer of dry natural gas in 2009 and 2010](#), March 13, 2012, EIA Today in Energy

In addition, crude oil and natural gas prices in the U.S. have diverged since about 2009. The EIA projects this trend to continue and the gap to widen through 2035. A key reason for this is that oil is a far more fungible commodity in the global market than natural gas. Domestic natural gas prices are down primarily due to dramatically increased supply from the shale plays. At the same time, rising global demand for oil (primarily from Asia) along with an unstable Middle-east has caused oil prices to rise.

Although the United States has a rich abundance of natural gas energy, less than 0.1% of domestic natural gas in 2010 fueled our nation's vehicles, according to EIA. This remains true despite the fact that there are over twelve million NGVs worldwide today and the number is growing. Only about one percent of those twelve million vehicles are in use here in the United States, despite our vast resources. Interest in NGV transportation has increased throughout the country, which has presented an opportunity in the United States for many of the leading auto manufacturers that already produce NGVs elsewhere, including Ford, GM, Chrysler, Fiat, Toyota, Honda, Nissan, Hyundai, Volkswagen and Mercedes, among others. Many truck manufacturers are already ramping up NGV volumes in the United States, including Daimler Trucks, Volvo, Kenworth, Peterbilt, and Navistar. Therefore, combined with continued safe and responsible development of our domestic natural gas resource, stable market growth among domestic end users, and consistent policy signals from Washington, natural gas as a transportation fuel can help to provide a low cost way to achieve emission reductions and energy security goals in the transportation sector.

CNG/LNG

Both liquefied natural gas (LNG) and compressed natural gas (CNG) offer fleets the opportunity to improve their environmental footprint, increase use of a domestic resource, and lower overall operating costs, therefore providing a multitude of benefits for both companies and the general public. CNG/LNG also provides new opportunities in emerging nonroad and marine engine applications. Natural gas is the alternative fuel of choice for most heavy-duty vehicle operators and many light- and medium-duty fleets and consumers. NGVs provide similar power, torque and fuel range as conventionally-fueled vehicles, while providing fuel cost savings and lower emissions. Additionally, NGV options are ready in a variety of factory-direct applications that can meet most fleets' light-duty, medium-duty and heavy-duty operational needs.

Natural gas is an extremely versatile transportation fuel that can be sold in the compressed or liquefied state, or as a feedstock to produce other liquid fuels. CNG is made by compressing natural gas to about 3600 pounds per square inch (psi). LNG is made by cryogenically cooling natural gas to -260° F. Natural gas stations can provide CNG, LNG, or a combination of the two.

CNG is ideal for light and medium duty vehicles and any heavy-duty fleets whose operations remain more local, such as municipal operations, refuse collection, and some delivery applications. There are two types of CNG stations: fast-fill and time-fill. A fast-fill station is more expensive than time-fill, but is excellent for retail sales and supporting fleets that require speedy fueling similar to conventional fuels. A time-fill station is less expensive, but works best for fleets that return to central locations and are parked for extended periods – generally overnight -- such as a refuse hauling fleet. Time-fill fueling is also available for passenger vehicles, with home fueling appliances that connect to the home's gas line and fuel CNG-powered vehicles over a multi-hour timeframe.

LNG vehicles provide the best commercially available technology for heavy-duty fleets with high fuel use and long-distance travel demands. This is because cooling gaseous natural gas to make liquid takes up about 1/600th the original volume, meaning trucks can carry more energy in their

tanks as LNG versus CNG. LNG is dispensed in fast-fill stations via mobile or permanent stations. Mobile stations, which consist of an insulated LNG tank and dispensing equipment built on a trailer that can be parked, provide an ideal option for off-road fueling and remote locations without pipeline access to natural gas. Mobile stations can also provide important fuel support until permanent LNG stations can be built.

Infrastructure

As of June, 2012, there are currently 53 LNG fueling stations² in the U.S. serving over 3,300 LNG vehicles³. Of the 53 LNG fueling stations, 36 are located in California. California is typically an early adopter for new vehicle technologies, due to local air quality challenges and associated government programs that support environmental protection. Although the existing network of LNG stations is highly concentrated in California and other southwestern early adopter states, these early alternative fuel leaders laid the groundwork for a growing national network of natural gas refueling stations.

Approximately 100 additional LNG stations are in the planning stages nationwide. 90% of these stations will be located outside of California, significantly improving the geographic distribution of stations and opportunities for an alternative fuel future.

A large nationwide network of CNG fueling stations already exists. Currently, there are over 1,000 CNG stations in the U.S, with 36 states that have at least five CNG stations⁴. About half of the CNG stations are for public use and others are for fleet-specific vehicle use only, although the prevalence of both is increasing. As of June 2012, there were 94 CNG stations currently planned or under development⁵. Recent CNG announcements by retailers such as Love's, Kwik Trip, Flying J, and Clean Energy demonstrate growing mainstream demand for CNG fueling.

ANGA works to increase this momentum by supporting major expansions of natural gas fueling stations along key highways, in order to support the transition to a lower cost, domestically produced transportation future. One region where ANGA has had recent success is the Texas Clean Transportation Triangle, or CTT. The goal of the CTT is to develop sufficient natural gas stations and initial fleet users to transform heavy-duty trucking in Texas. On July 15, 2011, Texas Governor Rick Perry signed into law Senate Bill 385, a first-of-its-kind legislation designed to help create a sustainable network of natural gas-refueling stations along the interstate highways connecting Houston, San Antonio, Austin, and Dallas/Fort Worth. The CTT legislation allocates funding from the Texas Emissions Reduction Plan (TERP) to support the development of new stations and the deployment of NGVs. For the biennium 2012-2013, over \$4.2 million was committed to funding natural gas stations, and \$18.3 million to the Natural Gas Vehicle Rebate/Grant Program.

The first round of CTT grant funding was very successful. In April 2012, the Texas Commission on Environmental Quality (TCEQ) received 21 applications for the development of natural gas fueling stations along the CTT. These proposed projects include 3 LNG stations, 4 LCNG stations, and 14 CNG stations. All proposed stations will offer public access and be located within 3 miles of one of the major interstate freeways along the triangle. Natural gas truck sales are expected to expand further as program truck rebates are released in early July 2012.

² "Alternative Fuels Station Locator" US Department of Energy Alternative Fuels Data Center, June 2012

³ "Alternatives to Transportation Fuels" US Energy Information Administration, 2010

⁴ "Alternative Fuels Station Locator" US Department of Energy Alternative Fuels Data Center, June 2012

⁵ "Alternative Fuels Station Locator" US Department of Energy Alternative Fuels Data Center, June 2012

This great program developed thanks to the leadership and support of the State Legislature of Texas, the TCEQ, and the Governor's office. An unprecedented consortium of more than 200 stakeholders was engaged in the strategic plan, including fleet operators such as United Parcel Service and business groups such as the Houston NGV Alliance and the Metroplex NGV Consortium. They were joined by utilities, fuel suppliers such as Clean Energy Fuels Corp., natural gas producers, and universities. Similar broad stakeholder efforts are now underway in other parts of the country, especially in areas of shale gas production, like the Marcellus or Rocky Mountain regions.

LNG: An ideal alternative fuel for long-haul trucking

Interest in fueling options from long-haul truck operators drives much of this infrastructure growth. Energy security and transportation air quality are complex problems that require the right fuel for the right application. Natural gas is a practical, cost-effective alternative fuel that can support the operational needs of our nation's heaviest vehicles. The transition to a natural-gas powered transportation future will increase energy security, grow the American workforce, and improve air quality.

Heavy-duty vehicles account for just over two percent of the U.S. vehicle population, but they consume more than 21 percent of the nation's transportation fuel⁶. Currently, diesel costs \$3.36 per gallon⁷, versus \$2.31 per diesel gallon equivalent of CNG⁸. Our heavy-duty transportation economy could save \$54 billion in fuel costs each year with a conversion to natural gas, freeing up these billions of dollars to reinvest in local businesses and economies.

Diesel fuel use is rising. Our consumer economy relies on heavy-duty trucks and fueling networks to transport our nation's goods and drive our economy. Due to growing demand over the last several decades, the number of trucks - and associated diesel consumption - is increasing. Of the 4.8 million heavy-duty trucks (Class 7 & 8)⁹ on our roads, 4.2 million run on diesel. These heavy-duty trucks consume over 70% of all diesel in the United States¹⁰. By 2035, the number of heavy-duty trucks will increase by almost 70% and will consume 34% more oil to meet our transportation demand¹¹.

Average annual mileage per heavy-duty tractor in the United States is 69,000 miles, which equates to approximately 11,700 gallons of diesel per vehicle each year (assuming 5.9 mpg¹²). Using the national average fuel consumption for a heavy duty tractor, the current annual diesel consumption for heavy-duty tractors is approximately 30 billion gallons of diesel per year, or 82 million diesel gallons per day.

Natural gas offers a clear, cost-effective path to energy security and economic growth. As the public network for CNG and LNG stations expands, more Americans will have access to a domestic, low-cost alternative to high gasoline prices and foreign oil.

⁶ "Transportation Energy Data Book", U.S. Department of Energy, 2010 Table 5.4

⁷ <http://www.eia.gov/petroleum/gasdiesel/> as of 7/2/2012

⁸ "Clean Cities Alternative Fuels Price Report", U.S. Department of Energy, April 2012

⁹ "Highway Statistic 2010", Federal Highway Administration, Table VM-1 and "Transportation Energy Data Book", U.S. Department of Energy, 2010 Table 5.4

¹⁰ "Transportation Energy Data Book", U.S. Department of Energy, 2010 Table 5.4

¹¹ "Annual Energy Outlook 2011", U.S. Energy Information Administration, 2011, Supplemental Tables 45-72

¹² "Highway Statistic 2010", Federal Highway Administration, Table VM-1

Governors' NGV Memorandum of Understanding and Light Duty Momentum

Momentum for increased NGV use is growing throughout the nation. Last fall, Oklahoma Governor Mary Fallin and Colorado Governor John Hickenlooper announced a high-level, bipartisan initiative to use NGVs in state fleets by aggregating vehicle purchase numbers. Since then the Governors of 11 additional states have signed the NGV MOU and have worked closely with the natural gas community to support the growth of infrastructure and fueling station initiatives to serve the increasing number of public and private NGVs on the road.

The governors recently took their efforts to a whole new level. In a letter to 19 auto manufacturers with plants in the U.S., the team of governors pushed for the increased production of more affordable compressed natural gas (CNG) vehicles. As an incentive, the governors re-affirmed their commitment to buy CNG vehicles for their respective state fleets.

This bipartisan team of governors recognizes that their combined purchasing power is one way to encourage auto manufacturers to harness the abundant and affordable natural gas resources right here in America. They are asking automakers to consider seriously the value in producing new NGV models not only for state fleets but also for the everyday consumer. This "power in numbers" can - and will - help jumpstart cleaner transportation choices, and with their powerful collective voice, this gubernatorial team certainly is on the road to a better future with cleaner, more affordable natural gas vehicles.

Automakers are responding as well, with Chrysler recently bringing online the U.S.'s only OEM factory-built, CNG/gasoline bi-fuel (capable of running on gasoline and CNG) pickup truck, built on the production line by Chrysler itself. Other manufacturers such as Ford and GM are similarly increasing their bi-fuel options. Honda is also ramping up long-term efforts to market its Civic Natural Gas, with new dealerships across the country signing up to sell the CNG car, which is made in America at Honda's Greensburg, Indiana plant.

Federal Policy Choices

ANGA supports constructive policies to promote natural gas vehicles and all of the benefits they bring for local air quality, community health and U.S. energy security. From government purchasing decisions, to support for transportation corridors that expand fueling infrastructure, policymakers at all levels of government can play a significant role in encouraging this clean form of transportation.

At the federal level, ANGA supports efforts to create a level playing field among alternative fuels policies. We agree that it takes "all of the above" alternative fuels to enhance our energy security. However, current levels of federal support for NGVs are not on par with other alternatives. We encourage the Committee to take a comprehensive technology- and feedstock-neutral approach when evaluating current levels of federal support for alternative fuels among all areas of the federal government, including Executive branch federal fleet performance, federal agency regulatory programs such as CAFE and EPA GHG standards, existing mandates such as the Renewable Fuel Standard, and Research and Development programs.

ANGA appreciates the efforts of Congressman Shimkus and the other cosponsors to expand the use of alternative fuels through HR 1687, the Open Fuel Standard Act. This legislation would require automakers to manufacture certain mandated percentages of vehicles capable of running on alternative fuel, including natural gas, in set time periods as allocated by the statute. While we are

encouraged by the discussion this legislation is helping to create, we are concerned that this mandate on automakers will not create the level playing field for fuels that is paramount to ANGA. We look forward to continuing to work with Congressman Shimkus and the Committee on constructive policies that help to level the playing field for all alternative fuels and contribute to greater energy security through the increased use of natural gas.