

TESTIMONY OF MARTIN J. DURBIN, PRESIDENT AND CEO,
AMERICA'S NATURAL GAS ALLIANCE

SENATE ENERGY & NATURAL RESOURCES COMMITTEE

JUNE 19, 2014

Introduction

Good afternoon, Madam Chair, Ranking Member Murkowski and Members of the Committee. Thank you for the opportunity to testify today. My name is Marty Durbin. I am President and Chief Executive Officer of America's Natural Gas Alliance ("ANGA").

ANGA represents North America's leading independent natural gas exploration and production companies. We work with industry, government and customer stakeholders to increase demand for, and ensure availability of, our nation's natural gas resources for a cleaner and more secure energy future. The collective natural gas production of ANGA member companies is approximately eight trillion cubic feet annually, which represents one third of total U.S. production.

Today's hearing asks how we can harness this game-changing resource, which appropriately acknowledges the opportunity we have before us as a nation. The enormous technology innovations, which continue to advance at a stunning pace, are driving economic growth, environmental improvement and enhanced energy security.

Recently, former Federal Reserve Chairman Ben Bernanke commented that growth in domestic energy production is one of the "bright spots" in our economic recovery, responsible for significant job creation and investment here at home. In addition, increased use of natural gas in both power generation and transportation is greatly reducing emissions not only of carbon, but also of criteria pollutants such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), mercury and particulate matter (PM). And the opportunity to export natural gas provides economic and national security benefits.

To fully harness the benefits of natural gas, ANGA believes the federal government must, of course, allow for the continued safe and responsible development of this resource, and maintain fiscal policies that have driven innovation and allow for cost recovery in what is a capital-intensive activity. Just as importantly, we must all work together to ensure the necessary

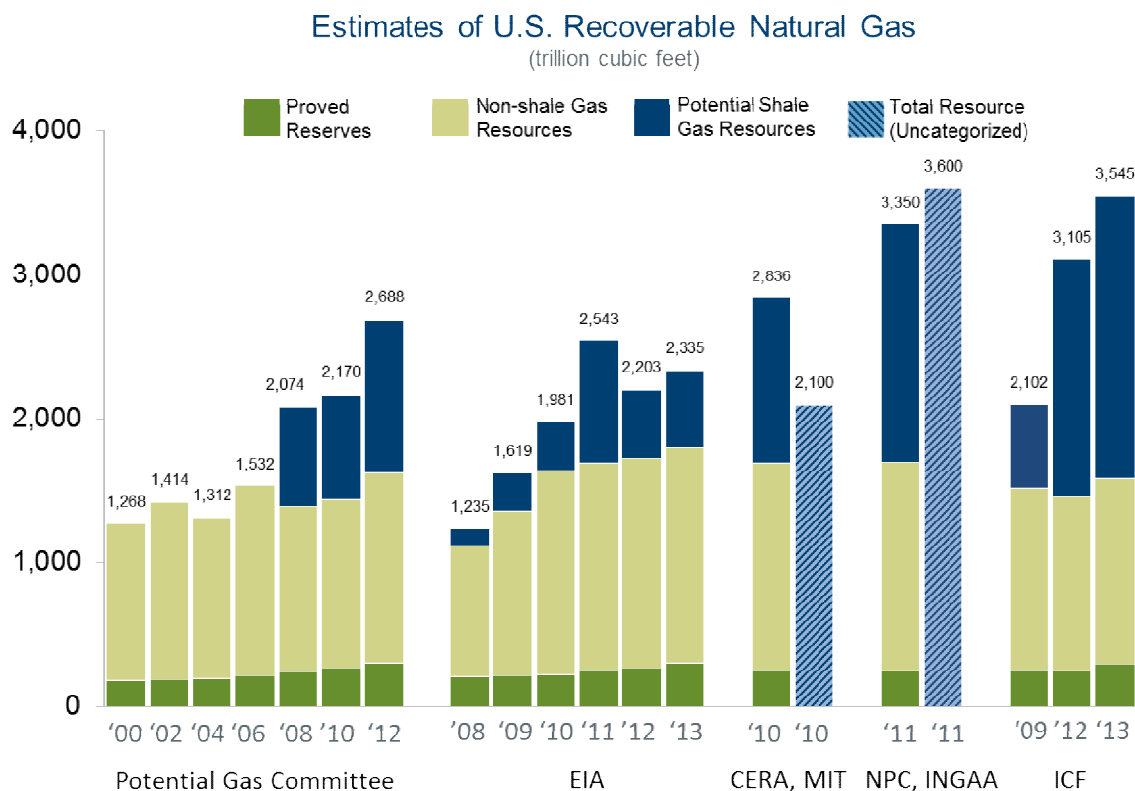
infrastructure, policies and market rules are in place that allow for the efficient use of natural gas across the economy – in power generation, manufacturing, transportation and exports.

Today, however, I will focus my testimony on the benefits of increasing exports of LNG and the tremendous opportunities we have for enhancing the use of natural gas in the transportation and manufacturing sectors. But, first I want to highlight the abundant and affordable supply of natural gas that is driving these opportunities.

Natural Gas Supply

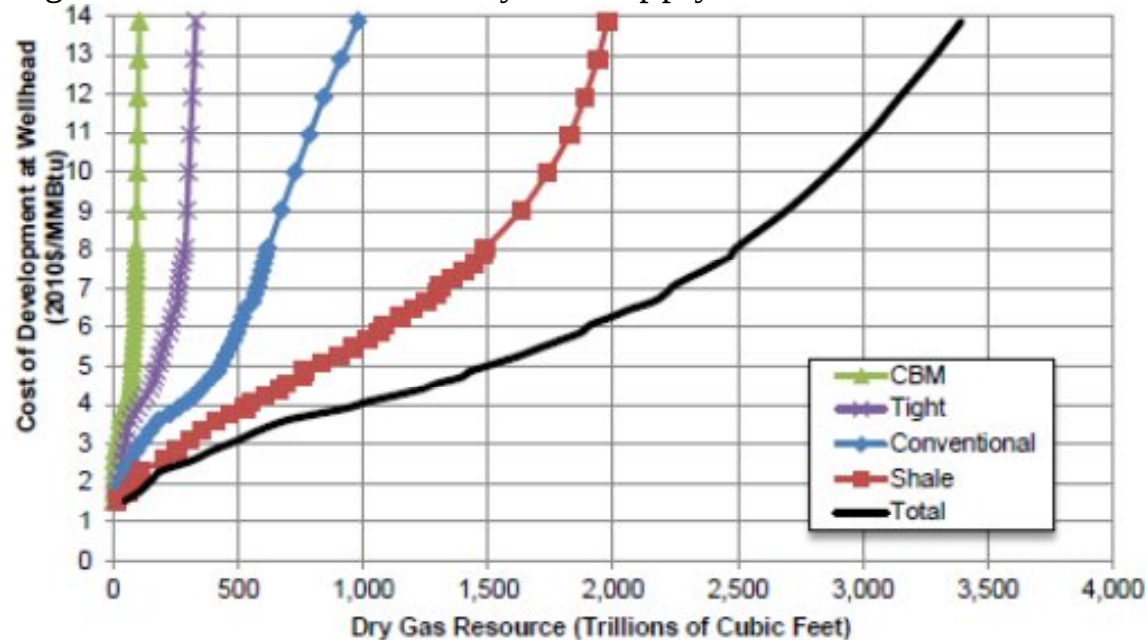
The Energy Information Administration (EIA), the Potential Gas Committee, and MIT all project ample domestic supplies of natural gas to power our nation for generations. The U.S. has enough natural gas at reasonable prices to sustain substantial increases in domestic consumption and to support exports. To put these findings in context, the volume of natural gas consumed in 2013 in the U.S. was 26 trillion cubic feet. The most recent projections show a range of technically recoverable gas using today's technology from 2,203 to 3,545 trillion cubic feet (Figure 1). As technology continues to advance in unconventional drilling, reserve estimates will also continue to grow.

Figure 1: Technically Recoverable Reserves



Importantly, using today's technology, ICF International estimates more than 1,500 TCF of dry gas is recoverable at \$5 per MMBTU or less in the United States and Canada¹ (Figure 2).

Figure 2: North American Dry Gas Supply Curves



Source: ICF²

Technology advancements have allowed us to access natural gas reserves that were previously too expensive to extract. Since the beginning of 2005, natural gas production in the United States has increased 30 percent. EIA's most recent projections, the 2014 Annual Energy Outlook³ (AEO2014) show a 56% increase in total natural gas production from 2012 to 2040. Figure 3 shows that the most recent projection is 47% higher than the projection made in 2009 and 10% higher than just last year. The only uncertainty appears to be how high it will go.

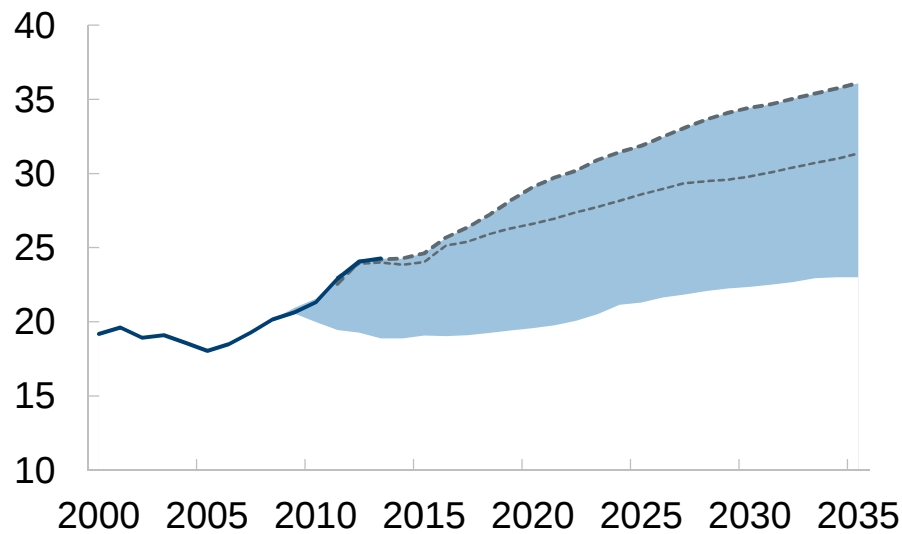
¹ ICF International, "U.S. LNG Exports: Impacts on Energy Markets and the Economy." May, 2013. pg. 44-45.

² Ibid.

³ EIA, "Annual Energy Outlook 2014." May, 2014.

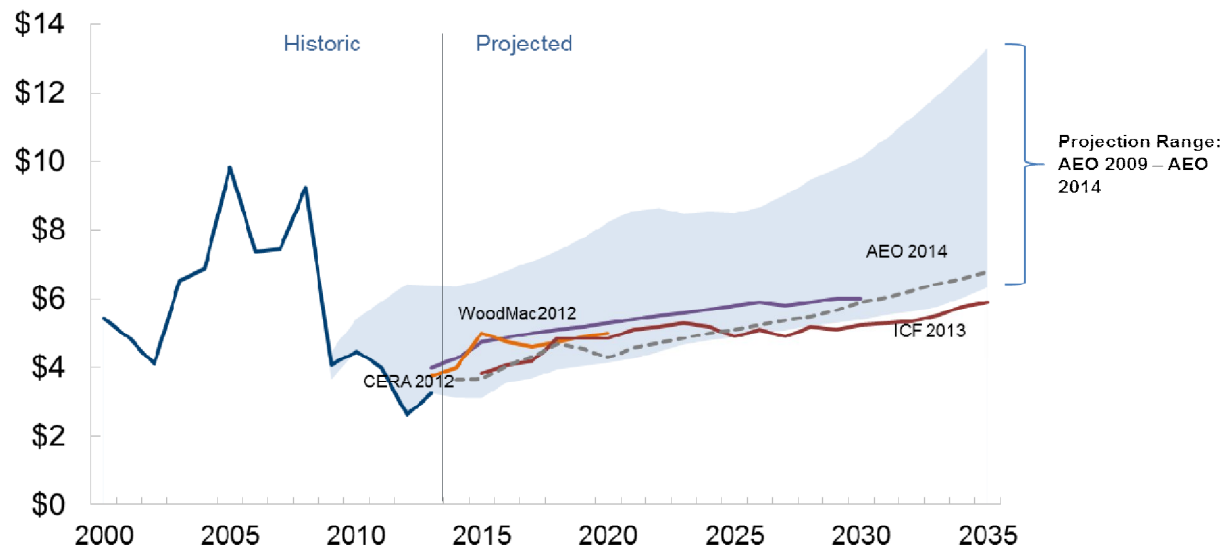
Figure 3: U.S. Natural Gas Production

Natural Gas Production (TCF): Reference



Price projections show an inverse relationship to production estimates (see Figure 4). In 2009, EIA projected gas prices near \$13 per MMBTU by 2035, but their most recent outlook (AEO2014) projects prices near \$6 per MMBTU. EIA's projections are comparable to analysis from ICF, Wood Mackenzie (WoodMac), and CERA.

Figure 4: Henry Hub Natural Gas Price (2011\$/MMBTU)



Source: EIA Annual Energy Outlook: 2009, 2010, 2011, 2012, 2013, 2014
Henry Hub Spot prices (Actual prices: 2000 to 2012)

Price increases during last winter's extreme cold weather were caused by infrastructure constraints and not a lack of supply. Cold weather drove a short-term increase in prices at Henry Hub by a couple of dollars per MMBTU

but prices reverted quickly back to their long-term outlook range as weather improved. More importantly, the prompt year forward markets remained relatively un-phased by price movements seen in the spot market. The annual 2015 strip remained less than \$4.50 per MMBTU⁴. And even on the one day when spot prices went to \$120 per MMBTU in New York, the price in Western Pennsylvania was \$4.30 per MMBTU.⁵ This further emphasizes the robust supply underlying all natural gas market fundamentals.

This abundant, affordable supply can support significant demand growth across all sectors of the economy including power generation, manufacturing, transportation and exports. The relevant question is not how much prices will increase due to this growth in demand, but rather how much demand will grow to take advantage of this abundant, affordable resource.

LNG Exports & the Manufacturing Renaissance

Incremental demand from LNG exports is projected to result in small price impacts. The NERA Economic Consulting study commissioned by the Department of Energy finds that as the level of LNG exports increase from the U.S., so too does the level of economic benefits to the U.S.⁶

Additionally, robust natural gas production has also resulted in dramatic increases in U.S. natural gas liquids (NGL) production. This impressive increase in NGL supply, the primary feedstock for chemicals and plastics manufacturing, is driving an unprecedented resurgence in our nation's petrochemical industry. Cal Dooley, President and CEO of the American Chemistry Council, stated in March that "U.S. chemical manufacturers surpassed the \$100 billion mark in anticipated investments related to shale gas... nearly 150 investment projects – ranging from restarts, to expansions, to brand new facilities – will create an estimated \$81 billion per year in new chemical industry output, and 637,000 permanent new jobs in communities across the United States."⁷

Dry natural gas and NGLs are co-products, and in most cases, one is not produced without the other. An increase in dry gas production will result in an increase in NGL production. A demand outlet for dry gas (like LNG exports) encourages continued investment in overall production, which in

⁴ NYMEX Futures, Henry Hub 2015 Annual Strip. Trade dates: Jan 1, 2014 – Jun 13, 2014.

⁵ Intercontinental Exchange, TGP-Z4 Marcellus Spot. Trade date: Jan 21, 2014.

⁶ NERA Economic Consulting, "Macroeconomic Impacts of LNG Exports from the United States." December 2012, pg 1.

⁷ Dooley, Cal. "Prepared Remarks for Cal Dooley." March 5, 2014

<http://www.americanchemistry.com/Policy/Chemical-Safety/TSCA/Cal-Dooley-Remarks-at-GlobalChem-2014.pdf>.

turn leads to a robust supply of NGLs and vice versa. ICF examined the impacts of LNG exports and found that natural gas liquid volumes would increase between 138,000 and 555,000 barrels per day (bpd) by 2035 due to LNG exports.⁸ An increase in NGL supply helps to preserve low NGL prices and this benefits domestic manufacturing industries.

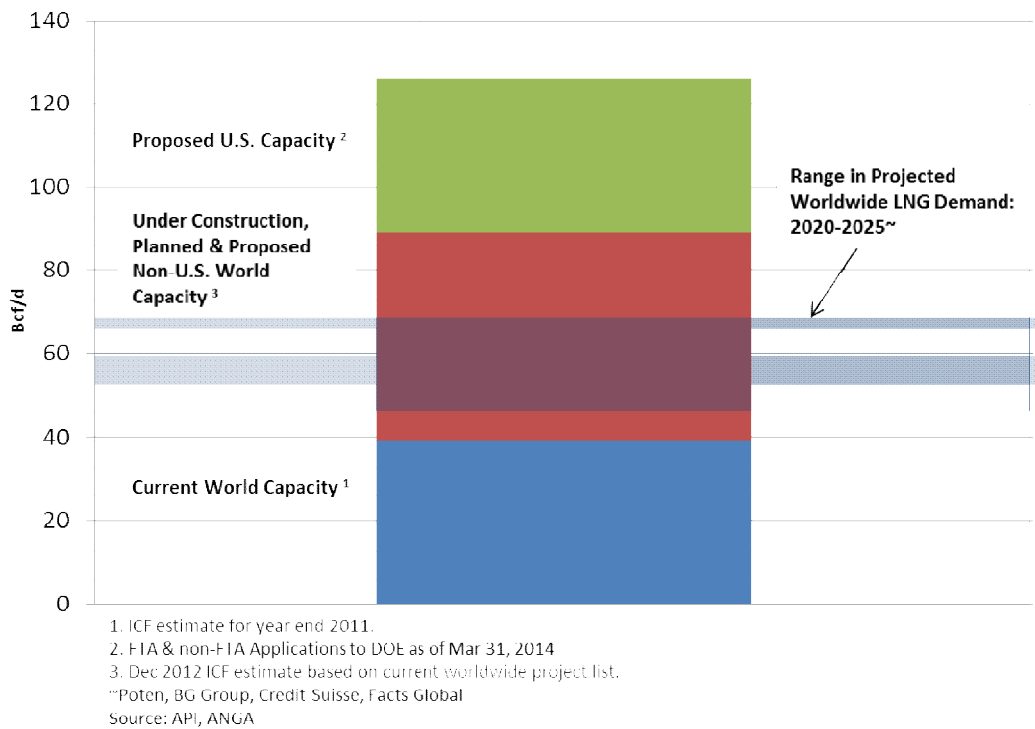
Figure 5



With respect to LNG exports, time is of the essence. Global demand for natural gas is expected to increase between 18 bcf/d and 38 bcf/d by 2025. Proposed new global LNG capacity outside the U.S. is approximately 50 bcf/d. Given the disparity between projected demand, and the number of facilities being proposed worldwide, the window of opportunity for the U.S. to get involved is narrow. The facilities that come online the fastest will have a competitive advantage in serving the expected global LNG demand.

⁸ ICF International, "U.S. LNG Exports: Impacts on Energy Markets and the Economy." May, 2013. pg. 7.

Figure 6: Global LNG Export Capacity and Demand



For every incremental billion cubic feet of gas produced each day to support LNG exports, 13,000 upstream jobs, 1,700 construction jobs and 200 operations jobs are created.⁹

Recent instability in Ukraine has focused much attention on the U.S. national security implications of global energy markets. In addition to helping reduce the trade deficit, LNG exports offer supply diversity to our strategic allies and bolster the U.S. ability to influence global energy dynamics.

The presumption of future U.S. supply will impact price expectations and the infrastructure investment decisions that are made today for both export and import facilities around the globe.¹⁰ The promise of U.S. LNG exports in the near term have reportedly provided greater leverage to countries negotiating new contracts with existing supplies, including Russia.¹¹

Just a few years ago, the U.S. was expected to be a major importer of natural gas. The shale revolution has eliminated our need for imports,

⁹ ICF International, "Tech Effect: How Innovation in Oil and Gas Exploration is Spurring the U.S. Economy." October 2012. pg. 4.

¹⁰ David L. Goldwyn, "Refreshing European Energy Security Policy: How the U.S. Can Help," Brookings Institution (2014). Pg. 1.

¹¹ Id at 1. The following countries have LNG import terminals under construction or proposed: France, Lithuania, Poland, Spain, Croatia, Estonia, Italy, Romania, and Ukraine.

thereby increasing global supplies and reducing prices across the board.¹² Allowing U.S. Henry Hub indexed exports will help sustain lower pricing over the long-term and provide an alternative to oil-linked gas contracts. Lower world prices are a benefit to everyone, and while this could increase competition for the U.S. it will also allow for a more liquid and “free” market.

Transportation

In addition to exports, natural gas can be used domestically in a variety of ways including peaking storage for heating needs and power generation; as an alternative fuel in heavy-duty applications such as oil and gas production and in heavy-duty transportation such as in freight movement via truck, rail or marine. LNG is particularly appealing in heavy-duty applications due to both the economic and environmental benefits.

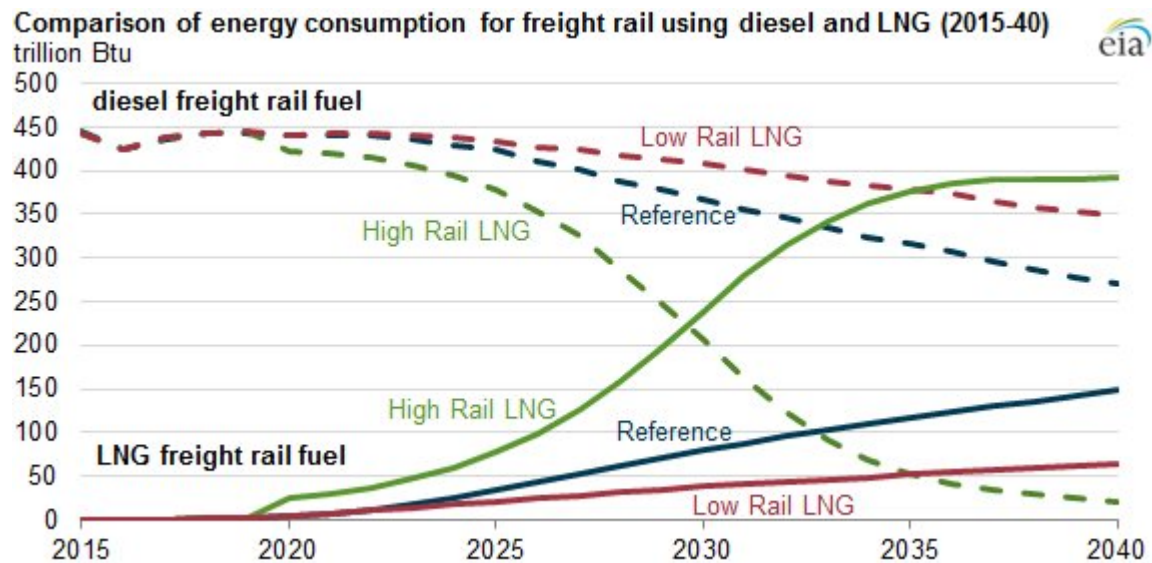
The primary drivers for the adoption of natural gas as a transportation fuel are performance and cost savings. However, in some instances compliance with regulatory requirements to reduce pollutants such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM) can also drive investment in CNG or LNG as a transportation fuel. Additional benefits include enhanced energy security through the greater use of domestic fuel sources.

Significant potential for natural gas as a transportation fuel exist in the heavy-duty on-road, rail and marine transportation industries. According to EIA, rail consumption is projected to increase from just over 1 trillion Btu in 2017 to 148 trillion Btu in 2040, or 35% of total freight rail energy consumption (Figure 7).¹³

¹² Charles K. Edinger and Govinda Avasarala, “The Case for U.S. Liquefied Natural Gas Exports,” Brookings Institution (2013), accessed June 17, 2014, <http://www.brookings.edu/research/articles/2013/02/us-lng-exports-edinger-avasarala>.

¹³ EIA, “Annual Energy Outlook 2014.” May 2014.

Figure 7



We are seeing large-scale, private sector investments in the technology needed to utilize natural gas in high horsepower applications. Companies like Harvey Gulf International Marine based in New Orleans, Louisiana has commissioned the construction of six LNG powered Offshore Supply Vessels (OSVs). Harvey Gulf expects to spend \$450 million dollars on this project and, in doing so, will have helped revitalize a number of businesses associated with the U.S. shipbuilding industry. By 2016, Harvey Gulf expects to have all six OSVs serving the oil and gas drilling industry operating in the Gulf of Mexico. Each of the six vessels in the Harvey Gulf fleet will utilize 90,000 gallons of LNG per month. Harvey Gulf expects to save \$1 dollar per gallon in fuel costs and is currently building the first LNG maritime fueling facility in Port Fourchon - a facility which will be capable of storing 270,000 gallons of LNG to support their own growing fleet as well as other maritime companies who are considering natural gas powered vessels.

There are also great examples of public-private partnerships encouraging increased natural gas use in the transportation sector. For example, in the Pacific Northwest, the Washington State Ferries, based in Olympia, Washington. WSF is evaluating LNG as a source of fuel for six ferries. WSF burns more than 17 million gallons of fuel each year. Their analysis has shown that switching from diesel to LNG could save 40-50% at today's fuel price. Pending U.S. Coast Guard approval and funding, WSF could begin the first conversion of an Issaquah Class ferry as early as 2016.

As a result of the shale gas revolution, we have seen significant growth in the last two years in the number of natural gas fueling stations. Nationally, there are now 1,378 CNG stations and 94 LNG stations. According to the Alternative Fuels Data Center there are 79 LNG stations planned and another 155 CNG stations planned to open in the coming year. In Texas alone, there are 78 CNG fueling stations and another 24 planned as well as 12 LNG fueling stations with 9 additional LNG fueling stations currently planned. The Texas Clean Transportation Triangle continues to serve as a model for public-private natural gas fueling to help address poor air-quality in the major metropolitan areas in Texas. Since the start of the program in 2011, the TCTT has created nearly 1,000 clean fuel technology jobs, \$135 million in direct investment into the Texas economy and allowed fleets like UPS, Procter and Gamble, Waste Management, and Frito Lay to deploy natural gas vehicles (NGV) and recognize the benefits of natural gas as a transportation fuel.

While this growth in the on and off-road markets is encouraging, it is also important to highlight policy decisions that could have a positive impact on the industry and could speed up the pace of adoption. Currently, the NGV industry is supporting the formal adoption of diesel gallon equivalent (DGE) as the measurement to be used for CNG and LNG. This will allow consumers to make simple and accurate cost comparisons. As the use of natural gas in American vehicles is increasing, we believe that enabling consumer adoption should be a priority. This type of policy is exactly what is needed to ensure that our abundant supplies of natural gas continue to experience growth in new market sectors such as transportation. We encourage Congress to support adoption of the DGE standard for CNG and LNG in transportation applications.¹⁴

Conclusion

The shale energy revolution has allowed us to transition from a posture of energy scarcity to one of energy abundance in just a few short years. As this hearing demonstrates, we have the ability to harness clean, abundant, and affordable natural gas for both domestic consumption and for exports. This paradigm shift is driving economic growth, environmental improvements and enhanced energy security. ANGA will continue to engage policymakers in helping to find solutions to our nation's energy challenges. I am grateful to the Chair, the Ranking Member and the Members of the Committee for the

¹⁴ Several Governors as well as a group of bipartisan members of the House of Representatives are formally supporting the gallon equivalency standard.

opportunity to testify today on behalf of America's Natural Gas Alliance and I look forward to our continued work together.