

Testimony of Mitchell W. Pratt,
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Before the

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Subcommittee on Energy and Air Quality

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Introduction

Good afternoon Chairman Hall and Honorable Members of the Subcommittee on Energy and Air Quality. My name is Mitchell W. Pratt and I am before you today representing Clean Energy, North America's leading clean transportation fuel provider, as the company's Senior Vice President of Operations and Government Affairs. Clean Energy provides fueling daily for over thirty thousand vehicles nationwide with clean, affordable, and domestically produced natural gas. Our company has over 160 fueling stations and is on track to sell approximately 73 million gallons of natural gas this year. We, at Clean Energy, strongly believe that natural gas has an important role to play in providing an immediate solution to our foreign oil dependency, urban air pollution challenges, and the clearest bridge to a hydrogen future. Natural gas as a transportation fuel is a solution today and will remain so well into the future.

Global Oil Supply

Some believe that the current run up in oil prices is a blip and that by 2010 we will be awash in oil. We are in the opposite camp. We believe we are looking at a looming supply-demand problem. Oil is a finite and dwindling resource and the world's demand for it keeps growing. That is why we believe that the world will continue to face stubbornly high prices for the long term.

Let's take a look at the facts. In the Arab embargo back in the 70s, we were importing approximately 25 percent of our oil. In the first Gulf War, we were importing 42 percent of our oil. Today we are importing 57 percent. By 2010, we will be over 60 percent oil imports. We've been pumping oil out of the ground since 1859. The last time a world class oil field was found was in the Caspian Sea in the late 1990s. The easy oil has been found. There are no surprises out there. We've either peaked as far as oil production goes, or it's right around the corner.

Demand is growing globally. For example, ten years ago China used 3.4 million barrels of oil per day. Today they are using 6.5 million barrels per day. There are forecasts showing them using 11 million barrels per day a decade from now. Wait until they really start buying automobiles. We are using more than 30 billion barrels of oil a year worldwide. The last time we found as much oil in a year as we consumed was about 1985. Production worldwide is 84-85 million barrels a day. Current demand is about 85

million barrels a day and demand projections for 2007 are easily north of that given China and India's increasing demand.

The treadmill is getting faster and faster. The decline curve for oil production is steady. Saudis say they can produce 10.5 million barrels per day, but they're only producing 9.5 million barrels per day. We all heard talk two years ago of Iraq production reaching 3 million barrels per day. They are producing less than 2 million barrels. To make matters worse, we've also got some serious geopolitical problems: Iran, Venezuela, Nigeria, and Russia. They are all wild cards. The Alaskan pipeline used to be full, running at 2 million barrels per day. It now carries less than half of that or 800,000 barrels per day. Further, because there are pipeline constraints, opening up ANWAR will not solve the problem because almost half the pipeline's capacity is already in use.

Alternatives to Oil

We must look at all solutions and we need to get serious about fuel diversity. We have known an oil shortage was coming for some time. Clean Energy believes that ethanol, biodiesel, and natural gas - as transportation fuels - each have a role to play. In fact, even if you assume biofuels achieve their greatest forecasted production targets, we believe demand will still outstrip supply by 3 million barrels per day by 2020. Over time, we believe that natural gas will be moved out of the power generation business by coal and nuclear, increasing the availability of domestic natural gas supplies for our country's transportation needs. Even assuming optimistic new production sources coming on line, balanced with estimated production decline curves, the demand-production gap could be

as high as 30 million barrels per day in 2020. This gap requires federal actions supporting alternatives today.

Natural Gas is Domestic

Natural gas is a domestic source of transportation fuel with an estimated 77 years of additional supply or 30 years extra supply over oil. Over 97 percent of our current use of natural gas is produced in North America, which helps protect us from unstable international political situations which increases our energy independence by not importing as much foreign oil. To put natural gas and transportation fuel use into perspective, if we powered 11,000,000 light-duty vehicles or 5 percent of the U.S. light-duty fleet with natural gas today, it would only account for 4 percent of the country's current natural gas fuel usage.

Natural Gas is Clean

Natural gas is a clean and efficient fuel. Natural gas vehicles (light duty, medium and heavy duty trucks) are all cleaner than gasoline or diesel vehicles. Natural gas vehicles meet near-zero emission levels for light-duty applications and already meet or exceed 2007 heavy-duty emission standards with some engines targeted to certify to the 2010 standard as early as next year (2007). Natural gas is inherently cleaner than gasoline or diesel and will continue to offer this benefit well into the future.

Natural Gas is Economic

Natural gas is economic. The price for natural gas as a transportation fuel is very competitive with today's gasoline or diesel fuels. In fact, natural gas was very competitive with oil at \$30 a barrel, let alone at the market's current price of \$70 a barrel. Clean Energy views natural gas as a commodity tracking at a discount to oil, especially when compared to diesel. For example, if you assume a natural gas price at \$7.20 per million cubic feet and 92 cents to cover transport, compression, taxes, and capital recovery costs, you can achieve a very competitive \$1.82 gasoline gallon equivalent or a \$2.02 diesel gallon equivalent. Today diesel ranges between \$2.90 to \$3.24 per gallon.

We further believe that when ultra low sulfur diesel fuel hits the market later this year, it will be an additional 25 to 30 cents, putting it in the \$3.50 range. This assumes the overall oil market stays stable even though, historically, the market has suffered over a dozen global oil supply disruptions over the past half century lasting 1 to 44 months in duration with supply shortfalls of one to 14 percent of world demand. Despite the reality of volatile oil prices and unlike any energy provider we know, our company is able to guarantee a fixed price per gallon of natural gas to light, medium and heavy-duty fleet customers below today's gasoline and diesel prices for up to five years on a energy equivalent gallon basis.

In addition to the comparatively low cost of natural gas as a transportation fuel, Congress took an important step in passing the energy and highway bills last year. As the cost of

uncertain diesel technology increases in an effort to meet new federal clean air emission standards, the energy bill provides up to a \$32,000 tax credit for a class 8 natural gas truck. This will certainly help narrow the incremental cost differential between diesel and natural gas vehicles. When fuel price and operational maintenance savings are factored in, natural gas vehicles become even more cost-effective than their diesel counterparts. Because some of the incentives put in place are going to take awhile to have a real impact, we need Congress to continue to provide long-range policies that promote alternative fuels in the marketplace.

Natural Gas Infrastructure

Perhaps the greatest challenge for any alternative to oil is the ability to distribute product to the end user. Natural gas, unlike other alternative fuels, enjoys the advantage of possessing a vast nationwide network of existing gas pipelines capable of delivering natural gas product to nearly every American community. Clean Energy has developed a strategic business model enabling the cost-effective development of a natural gas station network. This revolutionary approach creates on secondary station infrastructure to gasoline and diesel by leveraging private and public-private partnerships to create an extensive network. These turn-key partnerships enable high-volume fleet users to benefit from privately financed refueling stations while providing smaller volume users with public access at these stations. Further, consumers can immediately take advantage of natural gas as a transportation fuel with the simple installation of a low cost home refueling system that is currently on the market. Moreover, natural gas stations can

provide an early introduction of hydrogen by using a 10 to 30 percent blend, reducing the immediate need for high-cost fuel cells to achieve near-zero air emissions.

Natural Gas Vehicle Availability

Natural gas vehicles are currently available, proven, and tested in transit, refuse, shuttle, taxi, police, airport and municipal fleet applications throughout the United States. These applications were primarily driven by the clean air benefits inherently derived from the use of natural gas. However, for years American and foreign auto manufacturers have produced an ever increasing selection of natural gas vehicle products in Europe, and elsewhere, – both dedicated and bi fuel – for natural gas vehicles to address concerns over high oil prices. These OEM produced vehicles are fully integrated providing consumers the mileage range and conveniences of gasoline vehicles. Congress should follow Europe’s lead by strongly encouraging auto manufacturers through incentives or mandates to produce a greater range of natural gas vehicles for the American consumer.

Natural Gas Bridge to Hydrogen

Natural gas is also viewed as a bridge fuel to hydrogen as it continues to be the most cost-effective way to produce hydrogen, provides invaluable experience and knowledge to users on how to handle gaseous fuels, and natural gas infrastructure can be leveraged to provide hydrogen as well as blended hydrogen/natural gas dispensing. In fact, the blending of hydrogen and natural gas provide even lower near zero emission performance. With fully integrated OEM produced natural gas vehicles, these vehicles can be enabled to operate natural gas, hydrogen, and blended hydrogen/natural gas fuels.

Conclusions

Natural gas vehicles offer a proven solution in light, medium, and heavy duty vehicles that are ready for wide-scale implementation today. Our resources of natural gas can play a critical role in diversifying our nation's transportation fuel needs. Natural gas is clean, inexpensive and domestically produced, and excellent fuel formula. In leveraging natural gas as a transfer fuel we not only support the creation of a secondary infrastructure but also foster more vehicle production. The societal experience of operating a natural gas vehicle is likely the only realistic approach to achieving a hydrogen future. That being said, we need more national policies like the 2005 energy and highway bills to help natural gas and other alternative fuels penetrate the marketplace and be available to the public. Without the firm support of the Congress, our nation's ability to free itself from its current oil dependence will most certainly put our nation's economy, security, and overall public health at risk.