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Natural Gas and the Policies of the Future

Distinguished guests ... industry colleagues ... ladies and gentlemen ...

It is a pleasure to be here in the City of Lights to discuss how energy illuminates the world. And it is a special privilege to join this distinguished panel to specifically address the question of the role of natural gas in a sustainable future.

Since the World Gas Conference last met in 2012, we have continued to see far-reaching changes sweep energy markets.

We have seen the global market for natural gas expand – increasing efficiency and flexibility in international trade. We have seen the extraordinary and ongoing development of U.S. shale, creating the potential for North America to be a net energy exporter. And, since we last met, the world has come to a greater appreciation for how our industry's technological advancements

spur not only economic growth, but can also deliver environmental benefits.

In light of these achievements, we can say with growing confidence that natural gas will be *essential* in the decades ahead – especially as leaders from government, industry, and NGOs continue to explore the options for how best to manage the risks of greenhouse gas emissions.

Our conference is particularly well timed to contribute to the important and ongoing global dialogue about carbon policy, as we anticipate the discussions at the United Nations Climate Change Conference, which will take place here in Paris later this year.

In order to address the risks of climate change and secure a brighter future, the world will need to put in place sound energy policies *now* – policies that support access to natural gas resources; enable innovation and development; and promote trade in natural gas in the decades ahead.

This morning, I will briefly explore the extraordinary need for natural gas; discuss how our investments and innovations have created an opportunity for economic and environmental progress;

and then close with an exploration of the public policies we will need so that industry can continue to expand and use energy supplies in a safe, secure, and environmentally responsible way.

The Promising Outlook for Natural Gas

To secure the full potential of natural gas, it is important for our industry to communicate to the public and to policymakers the moral imperative driving the demand and the quest for energy.

Energy is the gateway to economic development and advancement.

In the decades ahead, the world will need reliable and affordable supplies of energy on an unprecedented scale.

Expanded economic output and roughly 2 billion additional consumers by 2040 will mean that global energy demand will likely grow by about 35 percent over 2010. This 35 percent increase by 2040 is like adding the energy demand of Russia, India, and all the nations of Africa, Latin America, the Middle East, and the Caspian region – *combined*.

Expanding supplies of natural gas becomes even more pressing as we consider the fact that there is a tragic divide – between peoples and nations with access to modern sources of energy and those without.

According to the latest data, about one in seven human beings still has *no* access to electricity. And about two out of five people must rely on biomass such as wood, charcoal, or animal waste for basic cooking and heating needs.

The costs of this “energy poverty” are steep – especially in terms of lives lost. The World Health Organization estimated that in 2012 alone about 4 million people around the world died from household air pollution.

This is why natural gas is essential. It will be one of the most important sources of energy to bridge this divide and help bring about a better life for hundreds of millions of people each year.

Natural gas is increasingly recognized as a reliable and affordable fuel with a wide variety of uses. For these reasons, we project global demand for natural gas will rise by 65 percent from 2010 to 2040.

This will be the largest volume growth of *any* energy source.

In fact, around the year 2025, we expect natural gas to overtake coal as the second most significant contributor behind oil in meeting global energy needs.

Projecting out to 2040, natural gas supplies from conventional sources will remain the majority of production. Nevertheless, because of new technologies, unconventional natural gas supplies are likely to grow by about 300 percent.

Telling the Story of Innovation

As this audience knows, the growth in natural gas and the advent of more secure and flexible global markets are ultimately a story of human ingenuity and innovation.

They are also a tribute to government leaders and visionary policymakers who laid the foundation for technological advancements by enabling long-term planning, investment, and development.

The results have been impressive – and the lessons instructive.

In North America, new supplies of oil and natural gas have created and supported millions of jobs; led to a manufacturing resurgence; and increased government revenues – all during a severe recession and through an ongoing period of anemic economic growth.

Innovations in natural gas production have also brought vast, new supplies to the market, providing greater energy diversity, greater reliability, and greater flexibility in the global energy portfolio.

This increase in energy security is also helping promote stability and peace during periods of international controversy or geopolitical upheaval.

Of course, while the transformation of the industry that has taken place in the U.S. is nothing short of remarkable, other countries have played an important leadership role in expanding the global trade in gas – most notably the State of Qatar. Through vision and sustained investment, Qatar has spearheaded the development of the global LNG industry – bringing untold benefits of energy and energy security to Europe and Asia.

There is another dimension to the natural gas story – one that industry must take the time to tell.

Our technologies have not only changed the energy and economic landscape, they have brought tremendous environmental benefits.

Environmental Benefits

Because natural gas emits up to 60 percent less carbon dioxide than coal when used for power generation, natural gas from shale has been instrumental in reducing U.S. carbon dioxide emissions to levels not seen since the 1990s.

Remarkably, these environmental gains have come even as the U.S. economy has grown 60 percent and added 50 million more consumers of energy than there were in the 1990s. In addition, these gains have come despite the fact that United States has no comprehensive cost-of-carbon policy.

Our industry's commitment to environmental stewardship can be seen in another area: methane emissions.

The U.S. Environmental Protection Agency has found that, since 1990, U.S. methane emissions have fallen about 15 percent.

That drop is impressive not only because of the past 25 years of economic growth. It is impressive in light of the fact that natural gas production has soared. In fact, since 2010, U.S. natural gas production has risen from approximately 60 billion cubic feet per day to 75 billion, but overall methane emissions have declined.

These achievements have come primarily because of the energy industry's commitment to investment in new technologies and operational improvements.

In the months and years ahead, we must engage the public and policymakers to emphasize how the energy sector *leads* many of the most promising efforts to pioneer technologies and techniques. We must communicate that sustainable technologies require sustainable investment. And sustainable investment requires sound, stable policies.

Building Policies Worthy of the Technologies

The advances in natural gas have been truly extraordinary – from liquefied natural gas development in Qatar to new fields coming online in Papua New Guinea and Australia; from world-class LNG trains to super-efficient LNG vessels steaming around the world; from hydraulic fracturing in the U.S. to new possibilities in Argentina, China, and elsewhere.

At every link in the energy chain, the increasingly efficient production and use of natural gas has demanded long-term planning, sustained investment, and cooperative efforts.

No matter where the industry goes next, new technologies and new ventures will depend on how we apply policy lessons. We will need sound decisions from leaders in every region – especially as the world looks to expand energy supplies in safe, secure, and environmentally responsible ways.

We will need policies equal to the advanced technologies and capabilities we have today – policies that will enable us to expand supplies and develop the technologies of tomorrow.

To do this, government will have to play a special role.

Only governments can provide *access*.

As questions of access arise, it is helpful for policymakers to recognize that the energy sector's advanced technologies and techniques have been proven in some of the most delicate ecosystems and harshest climates on earth. Governments can be confident in opening up access to energy resources, knowing that we will work to ensure that our footprint is minimized and the environment is protected.

Our industry's track record is especially relevant to discussions here in Europe, where there is significant and meaningful natural gas potential. IEA estimates Europe's total gas resources at 1600 trillion cubic feet (TCF).

Unfortunately, some nations, such as Germany and France, have put in place policies that have effectively banned hydraulic fracking. In contrast, the United States and Canada have provided access, enabling our industry to apply hydraulic fracturing for more than 50 years. In that time, we have worked with government at all levels to safely and successfully complete wells, utilizing hydraulic fracturing techniques on more than two million wells.

We can do the same in Europe. By opening up access and by applying such proven technologies, European and global markets would capture the benefits of increased energy diversity, flexibility, and security.

Another fundamental responsibility of government is to provide a *clear and certain pathway* to regulatory compliance. Such transparency and clarity help long-term planning, execution, and operational performance.

In contrast, regulatory complexity too often leads to costly delays, re-works, unnecessary duplication, and extended litigation.

As we consider the technological challenges of the future, regulations must also strike an appropriate balance between proper risk management and economic viability. By maintaining open channels of dialogue between government and industry, we can meet this challenge and establish policy pathways for business to invest and successfully execute long-range projects.

Finally, in the years ahead, policymakers must work together to *open avenues* of free trade and international investment.

The energy challenges of the future require significant human and financial capital to succeed.

The natural gas industry's greatest international successes, like those in the State of Qatar and Papua New Guinea, come when we have time to plan, invest, and innovate together, leveraging the strengths of national and international energy companies to manage risk and maximize value.

By supporting free trade, opening up access, and allowing the free flow of goods and services, governments help industry find more innovative and efficient ways to bring energy to market.

In recent weeks, there have positive signs on this front in the United States.

Congress has been debating Trade Promotion Authority. If passed, it would give President Obama authority to move forward on two major, pending free-trade agreements: the Trans-Pacific Partnership, which would strengthen the economic relations among 11 nations in the Asia-Pacific region, and the Transatlantic Trade

and Investment Partnership, which would increase trade between the U.S. and European Union.

Completing such agreements would revitalize the global discussion of – and renew the appreciation for – the value of international trade and investment.

History is clear and unequivocal: Free trade lifts the prospects of nations and improves the lives of people across borders, regions, and oceans.

Conclusion

As we look to the future, the demand for – and the future of – natural gas will be as bright as it is transformative.

The global move to natural gas is an evolution in markets that is changing economies and the environment for the better.

No one can say what the next transformative technology in our industry will be.

But with sound and stable policy frameworks around the world, we can continue to invest and innovate in the natural gas sector to improve the safety of operations; enhance energy efficiency; and improve our environmental performance and stewardship wherever natural gas flows.

I thank you for your kind attention.