

Statement of

Andrew Slaughter,

Shell Exploration & Production Company

Before the

US Senate Energy & Natural Resources Committee

Tuesday, November 8th, 2011

Chairman Bingaman, Ranking Member Murkowski, distinguished committee members; thank you for providing me this opportunity to discuss our nation's newfound natural gas abundance and the emerging market developments it is driving.

Above all, these resources can and must be developed in environmentally responsible and sustainable ways. Risks must be managed and mitigated. Best available technologies and operating practices must be employed. Operators should set, and meet, high standards, and support a regulatory regime that does the same.

Shell's operating principles for onshore upstream operations in North America set high standards for preventing and mitigating risks and their impacts. This is part of our commitment to safety and environmental stewardship, and the foundation of our investments.

And they are important investments. Because we know that America has enough natural gas to power the country stably and affordably for well over a century, even taking into account sustained demand growth.¹ This is good news for consumers in all sectors and for US industrial competitiveness – indeed these trends offer potential for no less than a rebirth of the American manufacturing sector..

Expanded natural gas supply has several implications for new and existing gas markets in the U.S.

First, it is clear that affordable, domestic natural gas supplies will provide reliable fuel at stable prices for U.S. power generation and other existing industrial demand sectors for many decades. This is an economic benefit for utilities and consumers, but it also offers significant environmental benefits thanks to the lower levels of pollutants, wastes and CO₂ associated with natural gas as measured against other fossil fuel sources.

But that's not all. Natural gas abundance is also driving emerging new economic sectors with great potential for the U.S. Shell alone is considering several significant investments – all founded on our confidence in the robust and affordable U.S. natural gas supply outlook.

Some examples:

- **Gas to Chemicals:** In the Northeast, Shell recently announced that we are evaluating construction of a world-class facility that will manufacture base chemicals in the Marcellus shale region – the first of its kind in decades. Seven other companies have also indicated that they may also construct similar facilities in the U.S.

¹ Although estimates of the remaining US technically recoverable natural gas resource base vary widely, all experts concur that the US endowment of natural gas is vastly greater than they had previously understood it to be. Between 2008 and 2010, Colorado School of Mines' Potential Gas Committee revised their estimates of the US Future Gas Supply upward by 89%. (See: <http://www.potentialgas.org/>) The US Geological Survey conducted focused research on the Marcellus Shale region in 2002 and again in 2011. In 2002, the USGS's mean estimate of the technically recoverable natural gas in the Marcellus Shale was roughly 2 trillion cubic feet. In 2011, they estimated that the Marcellus Shale holds 84 trillion cubic feet – a 4100% increase from their 2002 estimate. (See: <http://www.usgs.gov/newsroom/article.asp?ID=2893>)

Rising gas supplies are giving the U.S. chemical industry a new lease on life and creating thousands of jobs in the process. A recent study by the American Chemistry Council noted the potential for 17,000 new knowledge-intensive, high-paying jobs in the U.S. chemical industry, another 400,000 jobs outside the chemical industry and more than \$132 billion in U.S. economic output – all associated with the shale gas revolution.²

We're also expanding into markets that were unthinkable a few years ago in the United States. Potential new lines of investment include:

- **Liquefied Natural Gas (LNG) for use as a transport fuel:** Recently, Shell announced a plan to make LNG available for heavy-duty fleet and trucking companies to use as a transportation fuel beginning in 2012 in Western Canada. By making LNG available on the area's heaviest truck route, we are creating an infrastructure opportunity for the market to choose LNG as a sustainable transportation fuel.³
- **Gas to Liquids (GTL):** This technology converts domestically produced natural gas into liquid fuels, such as ultra-pure, clean burning diesel and aviation fuel, instead of importing it or refining imported crude. Shell pioneered this technology and recently brought a world class GTL facility online in Qatar.
- **LNG for export:** Managed properly, LNG export could spur greater investment in U.S. supply and infrastructure; create domestic jobs and position our country as an energy exporter. The abundance of supply means that exports can be pursued in addition to expanding domestic uses of natural gas - adding balance of trade benefits to domestic economic benefits with little impact on gas prices.

Developing markets for natural gas is a clear long-term, sustainable win for the U.S. Shell is making significant investments in this area because we believe in natural gas' potential to be the most promising energy opportunity for decades to come. But to realize its full potential, we must bolster public confidence in tight gas as a safe and sustainable energy resource.

We stand ready to work with our fellow operators, regulators and yourselves, to safely and responsibly realize the manifold opportunities and benefits made possible by this domestic gas bounty.

Thank you.

² See study conclusions here: <http://www.americanchemistry.com/ACC-Shale-Report>

³ According to a study by Resources for the Future, LNG trucks may be the most cost-effective way of both reducing oil consumption and CO2 emissions. <http://www.rff.org/RFF/Documents/RFF-BCK-Krupnick-NaturalGasTrucks.pdf>