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Good morning. It is a pleasure to be here today to discuss the important role and proven effectiveness of state-based regulations that recognize the tremendous opportunities America has for a more secure energy future, thanks to the fundamental transformation that has occurred in recent years, with the advent of natural gas from shale formations.

I am Clay Bretches, and I serve as the Vice President of Exploration and Production Services for Anadarko Petroleum Corporation. As one of the largest domestic natural gas producers in U.S. unconventional plays, including shale formations, Anadarko believes that quality regulation is essential for our industry to operate safely, protect the environment, build public trust and ensure accountability.

The key, in our view, is that regulation be primarily state-based to account for differences in geology, topography, population and other regionally specific considerations. All of the aspects that make up natural gas exploration and production, including drilling, hydraulic fracturing, production, gathering and transportation are already highly regulated. Tremendous progress has been made in recent years by multiple stakeholders to improve best practices, and almost every state with oil and natural gas development has updated requirements to enhance safety and address protection of the environment and public health. It's also important to note that federal agencies are often already involved in the state permitting processes, and I'll provide you with an example a bit later.

Anadarko has been a significant contributor to several recent important multi-stakeholder studies that examined ways to enhance the safe and responsible development of America's energy resources. These include:

- The National Petroleum Council's (NPC) study on Prudent Development of North America's Natural Gas and Oil Resources;
- The U.S. Secretary of Energy Advisory Board's (SEAB) "Safety of Shale Gas Development" report; and
- The Bipartisan Policy Center's Strategic Energy Policy Initiative Report, "America's Energy resurgence."

Our participation in these multi-stakeholder efforts that included government, regulators, environmental groups, NGOs, industry and academia reflects Anadarko's belief that research and collaboration is an important part of the regulatory process.

I'd like to touch on just a few recommendations from those reports and describe how those suggestions are already being implemented:

1. The creation of Regional Centers of Excellence – dedicated to continuous improvement of best practices for environmental, health and safety practices. I'm pleased to report that there are numerous groups in different regions of the country, which have already made recommendations and notable progress in this regard.
2. Recommendation for full transparency and public sharing of the ingredients used in hydraulic fracturing fluids through GWPC's FracFocus database. Many states are now requiring fluid disclosure and the use of FracFocus where information on each well is available to the public online.
3. Better measurement of methane emissions and plans for further reductions, as well as the establishment of industry/government partnerships to facilitate adoption of control technologies. We're currently participating with nine other companies, the Environmental Defense Fund and the University of Texas in an empirical study to measure methane emissions from production and completions operations.
4. Bolstering the State Review of Oil and Natural Gas Environmental Regulations, or STRONGER, as it is known. All states with natural gas and oil production should actively participate in STRONGER and use its recommendations to continuously improve regulation. It should be adequately funded, including from the federal government.

As I mentioned earlier, Anadarko supports and recognizes the need for effective state-based regulation, similar to that which exists in Pennsylvania and Colorado. I brought an illustration with me of the extensive regulatory oversight that companies must adhere to in the development of natural gas and oil projects in Pennsylvania. It's important to recognize that not every development project is exactly the same; however, the requirements and regulatory interaction at each stage of the process is common. Also, some of the state regulatory and oversight functions identified in this illustration involve federal agencies.

In closing, I would like to take a moment to emphasize that energy is fundamental to modern existence. Oil and natural gas are used to either manufacture or power nearly everything we use each day, and offer the most realistic and scalable opportunities for a more secure energy future that supports a vibrant domestic economy. Thanks to America's new-found abundance of natural gas, numerous media outlets have highlighted the marked improvement in carbon emissions in the U.S.

North Dakota and Pennsylvania lead the nation in job growth thanks in large part to shale developments. A recent study by PriceWaterHouseCoopers and the National Association of Manufacturers found that U.S. manufacturing companies could employ 1 million more workers by 2025 thanks to American natural gas. IHS Energy estimates the average American household will save almost \$1,000 each year between 2012 and 2015 on electricity bills because of cheaper

natural gas, and for the first time that I can remember in my career, Americans have reason to be optimistic about our domestic energy future.

Again, I thank the Committee for this opportunity and attention to this important issue.