Energy & Environment Subcommittee
"Tapping America's Energy Potential Through Research and Development."
Testimony of TIPRO Chairman David Martineau
9:30 a.m. - Friday, November 30, 2012

Good morning Mr. Chairman and members. My name is David Martineau, and I am here representing the Texas Independent Producers and Royalty Owners Association, also known as TIPRO. TIPRO was founded in the East Texas Field in 1946. Since then, TIPRO has grown into a top tier oil and natural gas trade association, made up of over 2,500 members statewide. Our membership ranges from small, family-owned businesses to the largest publicly traded independent producers, and includes large and small royalty owners, mineral estates, and trusts.

I currently have the pleasure of serving as the Chairman of the Board of Directors for TIPRO. I am a Certified Petroleum Geologist, a licensed Texas Professional Geoscientist, and I work as exploration manager for Pitts Oil Company based out of Dallas, Texas. I am truly honored to have the opportunity to address you all today.

Lately, much has been made of this country's looming "fiscal cliff". The United States, however, is not only facing a fiscal cliff, but an "energy cliff" as well. Domestic independent producers are responsible for approximately 75% of domestic natural gas production, and nearly 50% of domestic oil production. However, threats to the framework that allows independents to maintain and grow these production levels exist in various forms:

1) Tax provisions like Intangible Drilling Cost deductions (IDC's) and depletion allowance that are crucial to the survival of small independent producers are being attacked and mislabeled as "big oil subsidies".
2) Overreaching regulations from the EPA and U.S. Fish and Wildlife Service with little to no scientific backing pile additional unnecessary compliance costs onto the oil and natural gas producers.
3) The federal government is attempting to go green and "pick winners" by focusing federal research and development monies on unproven, uneconomical, and unreliable energy sources. They will not face the fact that eighty-five percent of the energy in the U.S. comes from fossil fuels.

What needs to be done to continue to tap America's Energy Potential that has been created by the new Shale Revolution?

1) Understand variations in subsurface properties to avoid drilling marginal wells and increase recovery efficiency.
2) Scientifically characterize risks and inform stakeholders.
3) Minimize surface impacts of unconventional oil and gas operations.

In the past, federal dollars have been spent on researching and developing improved methods of oil and natural gas extraction. Much of the resultant data and techniques, combined with the forward thinking of some brilliant and creative private sector minds, resulted in some of the biggest energy successes in the country's history. A few specific cases of worthwhile federal research conducted on oil and natural gas development:

- In 1976 - the U.S. Department of Energy initiated the *Eastern Gas Shales Project* to evaluate the gas potential of, and to enhance gas production from shales within the Appalacian, Illinois, and Michigan basins in the eastern U.S. This project showed that we had enormous amounts of natural gas locked in these domestic shale formations, which are now the massive Marcellus and Utica plays.
- In 1982 - the federal government began funding the research efforts of the *Gas Research Institute* - an industry-formed research and development program, founded in 1978, which has since resulted in increased natural gas viability as a fuel source.
- In 1991 - George P. Mitchell, with financial help from the Department of Energy, drilled and completed his first Barnett Shale horizontal well.
- In 2005 – Energy Policy Act – is a research program with the Research Partnership to Secure Energy for America (RPSEA).

Recognizing the importance of oil and natural gas, and investing federal money in its development, should not be a thing of the past. In fact, never in

history has it been more crucial to continue improving and enhancing our ability to recover domestic oil and natural gas. Domestic energy independence *can* be achieved, and federal research money can play a part.

In the state of Texas alone, since the Shale Revolution started from 2006 to 2011 we have increased annual production of oil from 347 million bbls to 431 million bbls and natural gas 6.3 trillion MCF to 7.7 trillion MCF. This partially is why our imports have dropped from 70% to 45% in that same time period and we are headed toward energy independence.

Chairman Hall's H.R. 6603 is a good step in the right direction and I compliment him on his efforts. Many areas where additional research could produce significant results are outlined in the bill, including:

- hydraulic fracturing
- development of improved proppants
- water minimization, management, re-use, and alternatives
- improved modeling of formations
- energy efficiency in exploration and production

Hydraulic Fracturing

The hydraulic fracturing process, as it has evolved over the past 50+years from vertical wells to long horizontal wells with multiple fracture treatments has introduced many complexities.

There is a need for research focus in this area to increase recovery efficiency. To do so requires research focusing on the subsurface processes involved with fracturing, including modeling of the process, microseismic assessment, emissions, water usage and other research.

Successful research will increase the efficiency of the process, significantly reducing the number of wellbores required, resulting in a reduction in well sites, water usage, emissions, traffic, noise, dust and other factors, all while increasing oil and gas recovery per well.

This area of research, the optics of which do not indicate direct environmental impact, can have an overwhelming environmental impact.

Water Management

According to data collected by the Texas Water Development Board, the volume of water used in hydraulic fracturing represents less than 1% of all water consumed in the state of Texas.

However, water management goes hand-in-hand with the hydraulic fracturing process, and industry recognizes that there is still progress that can be made in this arena. Research and development are needed to address:

1) mitigation of the volumes of fresh water required for hydraulic fracturing;
2) significant volumes of water produced from oil and gas shale wells and associated concerns as to its composition;
3) the development of technology to process water – converting the industry's largest waste stream into a new, useful product; and
4) assuring the ability to safely dispose of water in the subsurface by geologic characterization of potential disposal zones which vary across the country – geologic basin to geologic basin.

Understanding the Subsurface

The subsurface geologic conditions and types of resource rock found within unconventional gas formations, in particular oil and gas shale, require ongoing research. Flow of fluids (gas, oil, water) through very low permeability formations (particularly oil and gas shales) is not well understood. By increasing our understanding of subsurface geologic conditions, we can make progress toward effectively answering questions regarding economic recovery and environmental safety. Additionally, subsurface research can increase recovery efficiency from many unconventional oil and gas fields in the U.S., further unlocking minerals yet in place. These developed fields each have an entire infrastructure already in place, i.e. roads, wellbores, metering facilities, marketing, etc.

Thousands of small independents, many of whom are TIPRO members, do not have the resources to conduct their own research, yet cumulatively produce a huge portion of domestic oil and natural gas. This is an area where targeted and carefully disseminated federally-funded research efforts can have a significant and immediate impact on production and the economy, and I urge you to revive federal research investments into this worthwhile industry.

Often efforts intended to impact major, global oil and natural gas companies end up having a much larger impact on small, family-owned companies, many of whom live and work in your hometowns. These companies are a giant component in generating American jobs and resources for your state and this country, and they are worthy of your investment.

Thank you again for the opportunity to address you today.