Committee on Natural Resources
U.S. House of Representatives
Chairman Doc Hastings

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American Energy Renaissance Grows Jobs Through Technological Advances and Innovation

WASHINGTON, D.C. – Today, the House Natural Resources Subcommittee on Energy and Mineral Resources held an oversight hearing on *"American Energy Jobs: Opportunities for Innovation."* The hearing examined technological innovation used to harness job growth from both alternative energy resources such as wind, solar, hydropower, and nuclear as well as oil, natural gas, and coal.

Currently there are 9.8 million unemployed Americans in the United States and the energy sector is a proven job creator. Advances in innovation and cutting-edge technology are driving the current energy boom making it possible to explore new forms of energy; and existing energy resources, such as natural gas, are becoming more accessible. Despite significant technological advances in oil and natural gas extraction, production on federal lands continues to decline due to federal regulations, delays in permitting, and roadblocks by the Obama Administration.

"*Our country has always been a nation of innovators – pushing the limits of technology to effect positive change both at home and abroad. In the energy sector in particular, innovation is the life blood of progress. The science and engineering behind these operations is astounding and so are the innovators – forging new frontiers of American engineering,"* **said Subcommittee on Energy and Mineral Resources Chairman Doug Lamborn (CO-05).**

Witnesses at the hearing spoke about specific innovations that are fundamentally transforming the way we harness our energy resources leading to more efficient, affordable energy and job creation.

> **Mr. Ralston, Vice President and General Manager of the Missile Products Division of Alliant Techsystems,** spoke about new technology ATK is developing using air-breathing hypersonic and solid rocket motor technologies.
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> *"Today, ATK is developing a suite of energy-related tools that leverages our advanced air-breathing hypersonic and solid rocket motor technologies. We are applying our experience in hypersonic research and development to create technologies for down-hole steam generation aimed at producing heavy oil, found in the western half of the*

continental United States.

ATK's tool is highly versatile and can be used to stimulate new, existing or underperforming wells, either as an augmentation to or instead of current hydraulic fracturing procedures. Field demonstrations confirm its utility in oil, gas, and geothermal wells, with application in both vertical and horizontal wells.

The benefits of ATK's well stimulation tool directly addresses many of the most pressing problems facing the current hydro-fracking process. First, the tool uses little or no water in the performance of the stimulation. Second, ATK's propellant stimulation procedure needs no chemicals or proppant to enhance the flow of oil and natural gas. Finally, ATK's well stimulation tool is less expensive to operate relative to other hydraulic-related stimulation technology."

Mr. King, Vice-President of Unconventional Completions at Baker Hughes, highlighted the link between innovation, job creation, and human capital.

"*Innovation is critical to each of these endeavors, regardless of whether one is looking to the conventional, unconventional or deepwater markets. The technology needed is complex and interdisciplinary, requiring advances in materials science, mechanical engineering, electronics, fiber optics, communications, data acquisition, modeling, and analytics. In materials research alone we have labs dedicated to metallurgy, composites, elastomers, fluids and nanotechnology.*

The human capital and physical infrastructure needed to support this pace of product development are enormous. Baker Hughes employs hundreds of R&D scientists and engineers throughout the United States. Many work in interdisciplinary project teams at state-of-the-art facilities designed to foster creativity and innovation."

Mr. Stoicovy, Vice President of Oil & Gas and Industrial Gas Services at Air Liquide Industrial U.S. L.P. testified on the role the government can play to encourage innovation and technology in the energy sector.

"*What can the government do? As an overall goal, government needs to embrace innovation and help propel growth. It must permit state-of-the-art business community and a skilled and prepared workforce to thrive by making sure that it does not discourage creativity, research, and commercial application of American innovations.*

We must do a better job of striking a regulatory balance that ensures that folks out there who see opportunities to invent a better way to do something or create a new market have the leeway and support they need to make that happen. Overly burdensome, complicated, and redundant regulations make it impossible to truly capitalize on the energy renaissance – and inhibit development of long-term plans for growth and success."

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