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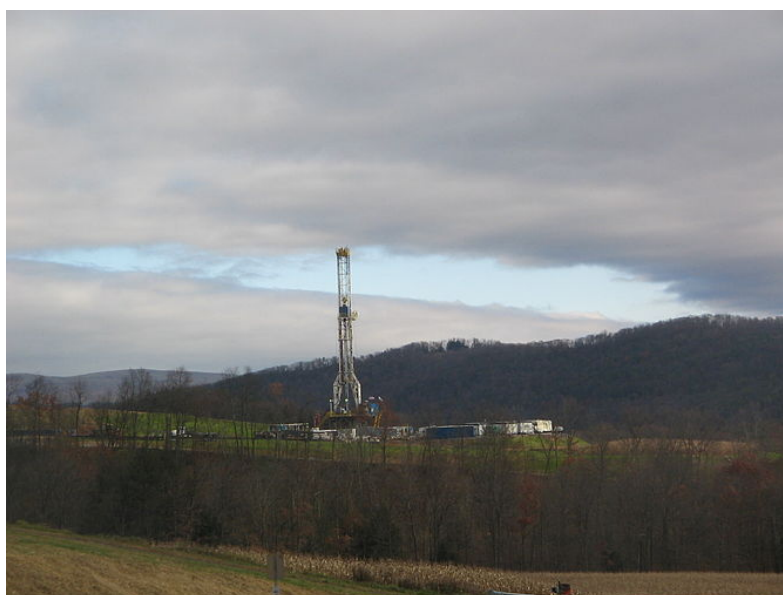
<http://www.forbes.com/sites/realspin/2014/03/05/sorry-russia-free-economies-are-making-the-most-of-the-shale-energy-revolution/>

Free Economies Are Making The Most Of The Shale Energy Revolution

By **Peter Kaznacheev**

As the political situation in Ukraine heats up, the shale gas revolution in the U.S. becomes even more important because of its potential to shift the balance of power in Europe and Asia. Amid the debate about the shale boom and whether exports of U.S. crude oil and liquefied natural gas should be allowed there is one question that gets too little attention. What were the institutional conditions that allowed the “shale gas revolution” to happen?

On a technical level, advancements in three key technologies – horizontal drilling, hydraulic fracturing and advances in seismic data collection and its digital interpretation – brought about an unprecedented increase in production. In 2000, shale gas supplied only 1% of the United States’ natural gas needs; today it supplies over a quarter. The US Energy Information Administration forecasts that by 2035, 46% of US natural gas supply will come from shale gas. Innovation in shale gas was accompanied by a breakthrough in shale and heavy oil production, specifically in Canada. As a result, the US and Canada account for 25% of global natural gas production and 14% of oil production. And there is visible progress in developing other unconventional hydrocarbons such as coal-bed methane – a form of natural gas extracted from underground coal mines. Today, Australia is one of the fastest growing producers of coal-bed methane. As a result of increased gas production it is expected to overtake Qatar as the world’s biggest exporter of liquefied natural gas.



Tower for drilling horizontally into the Marcellus Shale Formation for natural gas, from Pennsylvania Route 118 in eastern Moreland Township, Lycoming County, Pennsylvania, USA (Photo credit: Wikipedia)

There were underlying institutional prerequisites for such rapid technological progress. It is no coincidence that a breakthrough in unconventional hydrocarbons took place in countries which are in the top of the Fraser Institute's Economic Freedom of the World rating, such as Canada, the US, and Australia. To be sure, it was helped by other favorable conditions, such as high natural gas prices in the 2000s. But the institutional component was the decisive factor. The combination of secure property rights, a favorable tax regime, transparent and efficient regulation, and minimal red-tape made it possible. At the Russian Academy of National Economy and Public Administration we recently published a report on "Resource Rents and Economic Growth" that provides empirical evidence of the decisive role that institutions play in resource-rich countries. In resource-exporting countries with developed institutions and higher levels of economic freedom, both real per capita income and human development scores are higher, there is more investment, more civil rights and more innovation than in other resource-rich countries.

The property and management structure of extractive sectors plays a major role. The US, Canada and Australia have multiple private companies, ranging from vertically integrated multinationals to small exploration firms. They are all in competition for limited capital and human resources, which makes them focus on the most efficient technologies. Private oil companies generally outperform state-owned firms. According to our research, the average net income per barrel of the nine largest privately-owned oil companies is more than double that of the nine largest state-owned oil companies. It's no surprise, then, that despite the world's largest shale gas reserves, the shale gas boom did not start in China, which is dominated by government oil and gas companies. Innovation is rarely advanced and sustained by government decree, although many politicians would like us to think otherwise. Breakthroughs in unconventional gas and oil technologies are having a strong influence on the broader global energy landscape. The balance of hydrocarbon production is shifting towards countries that were previously seen as dependent on foreign oil and gas. The emergence of new centers of oil and gas production, such as the US, Canada and Australia, is undermining the influence of OPEC as a global cartel, while traditional importing nations are becoming more energy-independent. The International Energy Agency expects the US to cut its oil imports in half by 2020 and to become a net exporter of natural gas.

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Innovation is the key to making gains in efficiency and getting ahead in competition in any industry. An often overlooked important lesson of the "shale revolution" is that it's the quality of institutions that determines whether natural resource abundance boosts or stifles innovation, growth and development. That lesson itself is as important as the increased supply of fuels which resulted from the shale boom.

Breakthroughs in unconventional hydrocarbons in the US and several other countries demonstrate that it is possible to build a modern, prosperous and innovative economy that has a significant share of income from the sale of natural resources. That is why the institutional conditions that allowed the “shale revolution” to happen should be carefully analyzed by policy-makers, especially in oil and gas exporting economies.

Peter Kaznacheev was a senior advisor in the Russian Presidential Administration from 2003 to 2005. He is currently an associate professor and senior research fellow in energy and natural resources at the Russian Academy of National Economy and Public Administration.

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