
Impact of US shale gas on Russia's Natural gas

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Abstract—

Russia being the largest producer of Natural gas in the world is now currently facing threat due to booming shale gas industry in the US. Rising shale gas exploration in the US have significantly reduced the consumption of liquefied Natural gas which was imported from Russia. Russia still holds the largest reserves of 44.6bcm of gas but still Russia had to accept the lower prices for its Natural gas and is now allowing a portion of its sales in Europe to be indexed to spot natural gas markets.

I. INTRODUCTION

Russia has produced nearly 546.3 tonne of gas in 2011 and the major of the gas was used domestically, since Russia is the coldest country in the world, and heating and electricity use is very high, it has been seen that oil & gas industry led to 4.5% of annual GDP growth of Russia, but after 2009 when the shale gas exploration started in the US, the export business of Russia had a great setback. This credit goes to the leading drilling technology like hydraulic fracturing or fracking which has shaken up the world energy markets from Washington to Moscow by producing shale gas. Russia once again suffered a setback when the US denied the LNG importation contract signed recently. It has been said by the energy experts that US won't need to import Natural gas in the near future, and Russia would be the biggest loser.

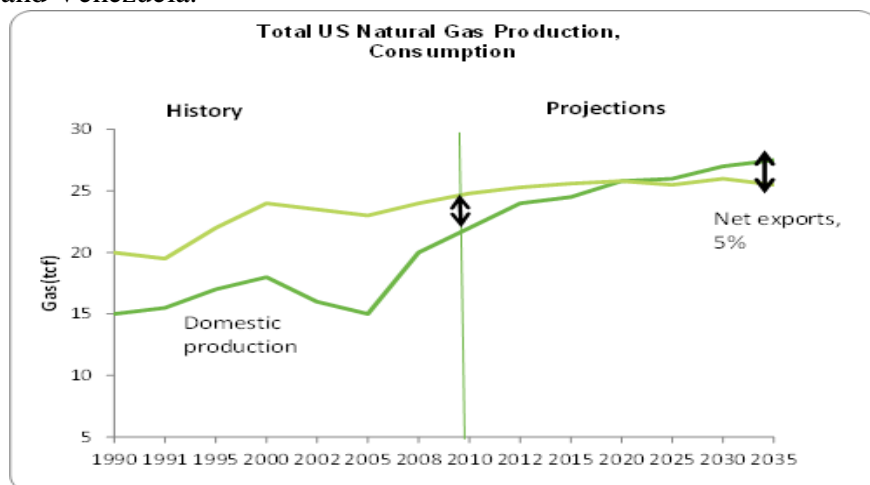
II. HISTORY OF GAS TRADE

After the end of the cold war between Russia and Europe, the east European countries since then became dependent on Russian Natural gas, and Gazprom the biggest producer of Natural gas in Russia leeway to set gas prices on their own basis. Russia has 44.6 trillion cubic meters of Natural gas proved reserves in 2011, and exports approximately 207 billion cubic meters of gas via pipeline especially to Europe and Asia, and if shale gas takes over their business Russia would be no longer the largest exporter of Natural gas.

III. IMPACT OF SHALE GAS

The exploitation of fields in Appalachian states such as West Virginia and Pennsylvania and further west in North Dakota, have transformed the US energy outlook totally. ***"In the US, shale gas didn't exist in 2004, now it represents 30% of the market"***. Due to this rise in production of shale gas in the US, Russia is not only accepting low prices for its natural gas but even losing its European market since they are now turning towards Middle East for new cheaper supply of LNG. In turn it is exerting lot of pressure on Russian pipeline supplies also on the status of indexing gas sales to a premium marker determined by the price of petroleum products.

Specifically shale gas will play a critical role in diminishing the natural gas market of Middle East, Russia and Venezuela.



The US consumed more natural gas than it produced in 2010, importing 2.6 trillion cubic feet from other countries, but later on domestic natural gas production grew more, this can be attributed to rise in shale gas production due to which it is projected that US can be the net exporter of natural gas by 2035. Shale gas alone accounts 49% of total Natural gas production of the US.

IV. RISKS TO RUSSIA'S NATURAL GAS

European Shale Gas: Russia is long time supplier of natural gas to Europe, but now Europe is engaged in exploring shale gas reserves, Europe has almost 1,200 trillion cubic feet of total unconventional gas reserves which is more than five times the continents proven gas reserves.

Economic Impact: In Europe the current average spot price for the natural gas is \$10 per mmbtu, Gazprom in order to save its downfall has to export gas at \$ 14 per mmbtu by 2020 in order to afford the investments in the pipeline. This is also evident from the dip in sales of Russian Natural gas to abroad which was 161.5bcm in 2009 and now 156.6bcm in 2011.

V. CONCLUSION

In the current article my analysis says that if the US would go on exploring its shale gas reserves at the current pace it would overtake Russia in terms of being the largest producer of the natural gas and this credit would go to the new technology involved in drilling and hydraulic fracturing. From the records it has been seen that Russia exported 7.3 tcf of its gas to Europe in 2011 but the current scenario is little different, Europe is now diverting its interest from Russia to LNG transport from Azerbaijan and Turkmenistan and also from the US, in fact UK government has effectively broken ranks with its European neighbors on shale gas development.

Shale gas production has increased so rapidly that within a couple of years the market in US has flipped from shortages to a massive glut which has indirectly imposed a threat to Russia Natural

gas market since in April 2012 U.S Department of Energy gave the green light to a facility in Louisiana to convert natural gas to liquid natural gas and then export it. At least 15 more similar plants coming up but their decision is still on hold by the department of energy, and if this export terminal would come up, the US might target to export its natural gas to Europe and nearby states which would surely will affect the economy of Russia.

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