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STRATEGIC AND PERSONNEL APPROACH TO THE GROWTH OF THE GAS INDUSTRY

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Abstract

The paper discusses how to apply strategic and personnel approaches to the growing gas industry. Here we describe the strategic philosophy that will help preserve the business, regardless of market volatility in the short term. The key challenge of the gas sector is, of course, its inherent volatility. The producers will need time to take into account unpredictability in terms of excess supply or unmet market demand. In addition, they will have to overcome the difficulties associated with the pace and scale of the transition to generating power from non-fossil sources. Given these uncertainties, gas companies need to develop a viable strategy to mitigate these risks.

Keywords

Strategic approach – Growth – Business – Gas industry – Philosophy - Volatility

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Introduction

In the short term, companies must maintain strict financial discipline and pay particular attention to improving productivity and applying new technologies. In the long term, they need to restructure their portfolios of assets so that they become profitable at low break-even prices¹. Moreover, they will have to think about how to ensure that their portfolio of assets generally meets tomorrow’s requirements and protect it in the transition to a low-carbon economy.

All of the above determines the relevance and practical significance of the study.

Methods of Study

The empirical base of the study is fueled by the data of Rosstat, and official reporting of Russian gas companies. The methods of studying this issue are management theory, system analysis method, and goal-setting methods. These methods make it possible to consider this issue as a purposeful and orchestrated process of business development in the gas industry.

Results and Discussions

The growth of the gas industry as a reliable source of energy resources is driven by the constant solution to strategic, technological, economic and other challenges that require the search, acquisition and application of new knowledge, a continuous increase in the activity, and the efficiency of innovation performance².

According to forecasts, the volume of investment in exploration and production will increase annually by 6% in the medium term (Figure 1).

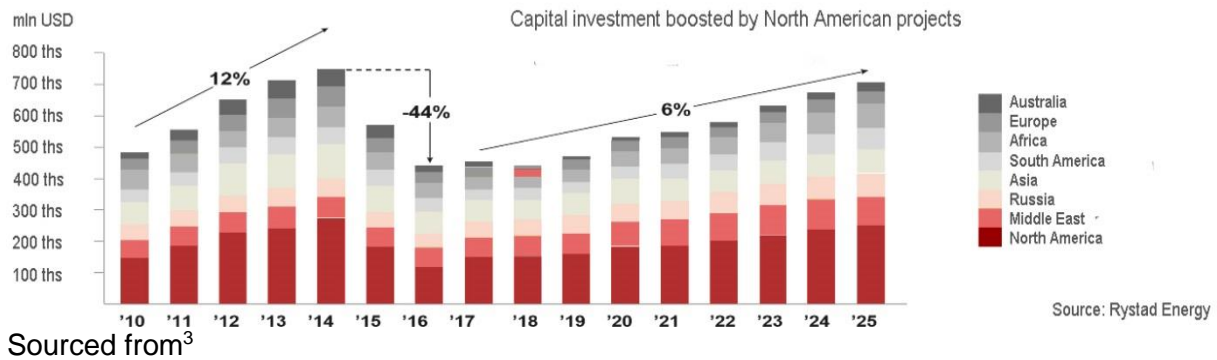


Figure 1
Capital investments in the global oil and gas industry, mln USD

¹ L. A. Chaikovskaya, “The Role of Accounting in the Involvement of Public Funds In R&D Activities”, Accounting. Analysis. Audit, num 5 (2017): 40-47.

² T. A. Voronova; A. P. Garnov; Ye. V. Loginova and S. Yu. Ayzov, “Technological Innovations as a Factor in the Sustainable Economic Growth of the Region”, Bulletin of the Plekhanov Russian University of Economics, num 5 (101) (2018): 182-191.

³ Strategy & Trends in Growing Oil and Gas Industry in 2018-2019. Strategy Formed in the Market Volatility. Available at: https://www.strategyand.pwc.com/resource/file/Oil-Gas-Trends-2018-19_RU.pdf

The reduction of staff that the industry had exercised during the economic downturn in order to save money led to the loss of technical specialists and reduced the industry's ability to attract young hopefuls. And all this in addition to the upcoming essential change of staff due to its aging and the lack of younger specialists with sufficient experience to replace employees who will retire⁴. This refers to a demographic shift that will occur in the sector over the next decade, when older workers will be retired.

What should companies do, given the uncertainties associated with the potential onset of the supply crisis and the transition to low-carbon energy? The strategic philosophy described below will help preserve the business by meeting tomorrow's requirements, regardless of market volatility in the short term^{5,6}.

Generally, management of the portfolio of assets at significantly lower break-even prices, regardless of actual gas prices. Maintaining this type of portfolio requires the companies regularly review its composition to screen out assets that do not meet the requirements. Such an approach to maintaining the portfolio of assets should suit companies of any size, including smaller independent undertakings, some of which focus a lot on technical issues related to finding new attractive methods and scenarios, and do not attach due importance to commercial feasibility^{7,8,9}.

Strict financial discipline. If the gas prices are going to climb, policies aimed at reducing costs, standardization and cooperation with other partners are relevant in order to guarantee the impossibility of returning to inefficient activities. It is necessary to ensure operational decisions, including those of entering the market of another country, optimizing the production, acquisition or sale of assets, are analyzed taking the economy of the full-cycle project into account. All costs should reflect the company's focus on realization of its key capabilities, which distinguishes the company among competitors¹⁰.

Emphasis on asset maintenance when investing and operating. As gas prices rise, operators may be tempted to use the equipment in such a way that it works for wear and tear in order to extract more raw commodities. However, given the age of many assets, oil and gas companies need to ensure that sufficient funds are available to carry out high-quality repairs of infrastructure related to supplies. This applies primarily to companies that

⁴ A. P. Garnov and V. Yu. Garnova, "The Innovative Capacity of Russia: Issues and Prospects of Implementation. RISK: Resources, Information, Supply, Competition: Resources, Information, Supply, Competition, num 1 (2016): 92-97.

⁵ Ye. S. Doronin, "Management of Innovative Activities Performed by International Companies in the Oil and Gas Sector", Modern Scientific Researches and Innovations, Vol: 6 num 2 (2014).

⁶ D. A. Malinovsky, Economic Efficiency of Innovative Activity at Oil and Gas Enterprises. Proceedings of the VIII International Scientific Conference «Economics, Management, Finances». Krasnodar: Innovation. 2018. 144-146.

⁷ A. V. Shraer, "Economic and Innovative Factors in Growing Fuel and Energy Sector of Russia", European Social Science Journal, num 4 (2011).

⁸ A. Burger, Digital Innovation in Oil and Gas Industry. Available at: https://www.eniday.com/en/technology_en/digital-innovation-oil-gas-industry/

⁹ C. Nakhle, Technological Innovation Creates New Opportunities in Oil & Gas. AspenTech. 2018. Available at: https://www.aspentech.com/en/blog/blog/Technological_Innovation_Creates_New_Opportunities_in_Oil_and_Gas

¹⁰ S. B. Baurina, Innovative Potential of the Undertaking. Proceedings of the II International Conference and Workshop «Innovations: Prospects, Challenges, Achievements» (Moscow: Publishing House of Plekhanov Russian University of Economics, 2014).

have suspended the maintenance activities for the future since 2014. As rising levels of activity cause equipment to wear and tear, unplanned outages will cause damage to the industry. Thus, the major scope of maintenance should then fall on the scheduled activities¹¹.

Change of the “owner-operator” model to an approach where only the owner is important and profitability is the priority. According to the management of many exploration and production companies, they need to increase their capabilities at all stages of the supply chain, while in practice, shareholders simply want to make a profit on their investments. In a dynamically developing market, the use of the “owner-operator” model creates certain obstacles to activities; the costs incurred in applying such a model exceed the value. Companies need to skillfully use their exceptional capabilities in liaison with other companies that are leading in their field in order to combine coherent projects and technologies in one system, taking the best of them¹². Such a departure from some types of operational activities will help them replace fixed costs with variables and structure commercial conditions in such a way as to balance risks, benefits and functions¹³. Companies from many other industries that have experienced the same difficult times have been forced to change their business practices and become more resilient, flexible, and more likely to survive amid the market volatility¹⁴.

Digitalization policy. The time has come to carry out transformations in the operation using advanced digital technologies in order to increase performance and take advantage of new opportunities that open up for the company. Transformations can involve the use of so-called digital twins (virtual asset simulation), which can help improve the efficiency of diagnostic maintenance¹⁵. Gas companies must implement these innovative approaches in all their affiliates. Further training for specialists in the age of new technologies. Particular skills and abilities that the specialists of the industry should possess is gradually changing. As companies increase their capabilities, for example, in the domain of software development and data mining, the heads of the HR department will need to think about the ratio of technical personnel (engineers) and technology specialists (data processing and analysis specialists and software developers) provision), as well as how to attract specialists of the latter category¹⁶.

¹¹ S. B. Baurina, Technological Innovations in the Gas Industry. Proceedings of the V International Conference and Workshop “Foresight of Industrial Growth: Selection of Priorities and Emphasis” “Challenges and Prospects for the Growth of Russian Industry” (Moscow: RUSCIENCE, 2019), 134-141.

¹² Gazprom, Gazprom Innovation Growth Program until 2025. Available at: <https://www.gazprom.ru/f/posts/97/653302/prir-passport-2018-2025.pdf> y Gazprom. The Gazprom web site. Available at: <http://www.gazprom.ru/press-cente/archive/2015june/1108291/>

¹³ A. P. Garnov, Strategic Planning of Engineering and Economic Growth of the Oil Company. The collection includes: Russia: Trends and Growth Prospects. Annual Book. Institute of Scientific Information for Social Sciences of the Russian Academy of Sciences (Moscow: Institute of Scientific Information for Social Sciences of the Russian Academy of Sciences, 2018), 480-483.

¹⁴ O. N. Bykova and S. Suslova, “Logistic Technology Transfer as a Method of Diffusion of Innovations”, Logistics, Vol: 8 num 61 (2011): 23-25.

¹⁵ V. A. Volkov and S. R. Razmanova, “Technological modernization of the oil and gas industry: the current state and prospects of development”, St. Petersburg State Polutechnical University Journal Economics, num 5 (251) (2016). Available at: <https://cyberleninka.ru/article/n/technological-modernization-of-the-oil-and-gas-industry-the-current-state-and-prospects-of-development> y IEA. World Energy Outlook 2018. Available at: <https://www.iea.org/weo2018/>

¹⁶ O. N. Bykova, Mechanisms for Building the Innovation (Moscow: 2012).

Business development. In the long term, given the megatrends that shape the future of the industry, companies should focus on identifying and implementing the most viable strategy that takes into account the requirements of tomorrow, building on their own unique capabilities¹⁷. One of the ways could be the transition to operation using new types of utilities¹⁸. For example, Dong used its own conventional exploration and production business to finance growth in the segment of wind power engineering. In 2017, Dong left the oil and gas business to focus on low-carbon scenarios, and subsequently rebranded to use the Orsted brand¹⁹. Similarly, Engie sold out its productive capacities in order to concentrate on the electric power engineering and renewable energy sources. Another possible way is to restructure the portfolio in support of assets related to natural gas. Recently, there has been point of view becoming popular that according to which companies engaged in exploration and production may have potential for growth over the next 10-15 years²⁰. For those production companies that share this view, natural gas becomes a link in the transition to a low-carbon economy²¹.

Conclusion

Many industry participants continue to disregard the supply side of the global energy industry and are overly confident in supply options. Demand is still higher than annual forecasts, inventories are declining, and gas reserves are not replenished. Nevertheless, the dependence of the entire world on gas remains. In the short and medium term, the need to increase its supply will be felt more and more drastic.

The volatility of market fundamentals will highly likely continue and influence the prices. For the operators to evaluate the impact of various scenarios - from supply constraints to the transition to a low-carbon economy – they need an action plan. Viable portfolios of assets shall be in place, they have to innovate, while the capital productivity and efficiency must remain the cornerstone of the performance. In the longer term, companies will need an effective, well-balanced strategy for dealing with hydrocarbons - a strategy that will work no matter what the future brings to these companies. Only those companies that take all these measures will have an advantage.

¹⁷ V. M. Repnikova; O. N. Bykova; O. O. Skryabin; D. E. Morkovkin and L. V. Novak, "Strategic Aspects of Innovative Development of Entrepreneurial Entities in Modern Conditions", *International Journal of Engineering and Advanced Technology*, Vol: 8 num 4 (2019): 32-35.

¹⁸ R. V. Lebedev and S. V. Shenkarenko, Development of Innovative Activity of Gas Companies. Proceedings of the fourth international round table "Fundamental and Applied Developments in the Field of Engineering, Physics and Mathematics" (Kazan: Konvert LLC, 2018), 13-18.

¹⁹ L. A. Chaikovskaya and S. B. Baurina, Tools of Accounting and Analytical Support of Innovation Processes in the Gas Industry. Proceedings of the V International Conference and Workshop "Foresight of Industrial Growth: Selection of Priorities and Emphasis", "Problems and Prospects for the Development of Russian Industry" (Moscow: RUSCIENCE, 2019) y L. N. Eder and I. V. Filimonova, "The Key Issues of the Innovative Growth of the Oil and Gas Industry in the Domain of Oil and Gas Production", *Drilling and Oil*, num 4 (2014): 165–184.

²⁰ SAS, Analytic Innovations Address New Challenges in the Oil and Gas Industry. Available at: https://www.sas.com/content/dam/SAS/en_us/doc/whitepaper1/analytic-innovations-address-new-challenges-oil-gas-industry-105974.pdf y D. Pinchbeck, Research and technological innovation in the gas sector: the views of the European gas research group. Available at: http://gerg.eu/public/uploads/files/publications/conference_papers/2003/pinchbeck_rimini03.pdf

²¹ Gazprom-neft. Accounting Policies of Gazprom Neft for 2018. Available at: http://ir.gazprom-neft.com/fileadmin/user_upload/documents/ad-hoc_releases/new/new_04.03.16/qrep/1q2018/pril4.pdf

References

Books

Baurina, S. B. Innovative Potential of the Undertaking. Proceedings of the II International Conference and Workshop “Innovations: Prospects, Challenges, Achievements”. Moscow: Publishing House of Plekhanov Russian University of Economics. 2014. 267-272.

Baurina, S. B. Technological Innovations in the Gas Industry. Proceedings of the V International Conference and Workshop “Foresight of Industrial Growth: Selection of Priorities and Emphasis” “Challenges and Prospects for the Growth of Russian Industry”. Moscow: RUSCIENCE. 2019. 134-141.

Journal articles

Bykova, O. N. and Suslova, S. “Logistic Technology Transfer as a Method of Diffusion of Innovations”. Logistics, Vol: 8 num 61 (2011): 23-25.

Chaikovskaya, L. A. “The Role of Accounting in the Involvement of Public Funds In R&D Activities”. Accounting. Analysis. Audit, num 5 (2017): 40-47.

Doronin, Ye. S. “Management of Innovative Activities Performed by International Companies in the Oil and Gas Sector”. Modern Scientific Researches and Innovations, Vol: 6 num 2 (2014).

Eder, L. N. and Filimonova, I. V. “The Key Issues of the Innovative Growth of the Oil and Gas Industry in the Domain of Oil and Gas Production”. Drilling and Oil, num 4 (2014): 165–184.

Garnov, A. P. and Garnova, V. Yu. “The Innovative Capacity of Russia: Issues and Prospects of Implementation”. RISK: Resources, Information, Supply, Competition: Resources, Information, Supply, Competition, num 1 (2016): 92-97.

Repnikova, V. M.; Bykova, O. N.; Skryabin, O. O.; Morkovkin, D. E. and Novak, L. V. “Strategic Aspects of Innovative Development of Entrepreneurial Entities in Modern Conditions”. International Journal of Engineering and Advanced Technology, Vol: 8 num 4 (2019): 32-35.

Shraer, A. V. “Economic and Innovative Factors in Growing Fuel and Energy Sector of Russia”. European Social Science Journal, num 4 (2011).

Volkov V. A. and Razmanova S. R. “Technological modernization of the oil and gas industry: the current state and prospects of development”. St. Petersburg State Polutechnical University Journal Economics, Vol: 5 num 251 (2016). Available at: <https://cyberleninka.ru/article/n/technological-modernization-of-the-oil-and-gas-industry-the-current-state-and-prospects-of-development>

Voronova T. A.; Garnov A. P.; Loginova Ye. V. and Ayvazov S. Yu. “Technological Innovations as a Factor in the Sustainable Economic Growth of the Region”. Bulletin of the Plekhanov Russian University of Economics, Vol: 5 num 101 (2018): 182-191.

Scientific conference

Bykova, O. N. Mechanisms for Building the Innovation. Moscow: 2012.

Chaikovskaya, L. A. and Baurina, S. B. Tools of Accounting and Analytical Support of Innovation Processes in the Gas Industry. Proceedings of the V International Conference and Workshop “Foresight of Industrial Growth: Selection of Priorities and Emphasis”, “Problems and Prospects for the Development of Russian Industry”. Moscow: RUSCIENCE. 2019.

Garnov, A. P. Strategic Planning of Engineering and Economic Growth of the Oil Company. The collection includes: Russia: Trends and Growth Prospects. Annual Book. Institute of Scientific Information for Social Sciences of the Russian Academy of Sciences. Moscow: Institute of Scientific Information for Social Sciences of the Russian Academy of Sciences. 2018. 480-483.

Lebedev, R. V. and Shenkarenko, S. V. Development of Innovative Activity of Gas Companies. Proceedings of the fourth international round table “Fundamental and Applied Developments in the Field of Engineering, Physics and Mathematics”. Kazan: Konvert LLC. 2018. 13-18.

Malinovsky, D. A. Economic Efficiency of Innovative Activity at Oil and Gas Enterprises. Proceedings of the VIII International Scientific Conference “Economics, Management, Finances”. Krasnodar: Innovation. 2018. 144-146.

Internet publications

Burger, A. Digital Innovation in Oil and Gas Industry. Available at: https://www.eniday.com/en/technology_en/digital-innovation-oil-gas-industry/

Gazprom. Gazprom Innovation Growth Program until 2025. Available at: <https://www.gazprom.ru/f/posts/97/653302/prir-passport-2018-2025.pdf>

Gazprom. The Gazprom web site. Available at: <http://www.gazprom.ru/press-cente/archive/2015june/1108291/>

Gazprom-neft. Accounting Policies of Gazprom Neft for 2018. Available at: http://ir.gazprom-neft.com/fileadmin/user_upload/documents/ad-hoc_releases/new/new_04.03.16/qrep/1q2018/pril4.pdf

IEA. World Energy Outlook 2018. Available at: <https://www.iea.org/weo2018/>

Nakhle, C. 2018. Technological Innovation Creates New Opportunities in Oil & Gas. AspenTech. Available at: https://www.aspentech.com/en/blog/blog/Technological_Innovation_Creates_New_Opportunities_in_Oil_and_Gas

Pinchbeck, D. Research and technological innovation in the gas sector: the views of the European gas research group. Available at: http://gerg.eu/public/uploads/files/publications/conference_papers/2003/pinchbeck_rimi03.pdf

SAS. Analytic Innovations Address New Challenges in the Oil and Gas Industry. Available at: https://www.sas.com/content/dam/SAS/en_us/doc/whitepaper1/analytic-innovations-address-new-challenges-oil-gas-industry-105974.pdf

Strategy &. Trends in Growing Oil and Gas Industry in 2018-2019. Strategy Formed in the Market Volatility. Available at: https://www.strategyand.pwc.com/resource/file/Oil-Gas-Trends-2018-19_RU.pdf

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