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**DEVELOPMENT OF THE LNG PRODUCTION INDUSTRY
IN THE CONDITIONS OF INNOVATIVE ECO-ORIENTED
TRANSFORMATIONS**

Speciality: 5.2.3 Regional and sectoral economy

Abstract

dissertations for the degree
of Candidate of Economic Sciences

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The relevance of the research topic

The processes of strategic changes in recent years have affected almost all spheres of the economy and life of the population. Ecology, politics, innovation, and social development are currently the main attractors of the transformation of socio-economic systems and markets. Despite the sufficient study of the problem of strategic management in conditions of high market volatility and changes in other areas, many problems turned out to be quite unexpected, and their significance has increased dramatically in recent years.

This also affected gas industry enterprises, which are currently losing their usual foreign sales markets. For Russia, the problem of the development and use of natural gas-related industries (preferences for resource availability and accessibility of which are undoubted and bring Russia to the top in resource competition) is relevant and a priority.

An important area of development of the gas production industry is gasification of the regions in Russia. Considering the production and supply of liquefied natural gas (hereinafter — LNG) as an option not tied to pipeline systems and thus insured against some risks, we can say that it has great prospects and that it is necessary to diversify LNG markets not only abroad, but also in Russian regions.

The efficiency of the development of domestic markets will be greater if LNG gasification enterprises become the basis for the formation of alternative eco-oriented industries in the regions. A wide implementation of LNG production enterprises into domestic markets requires clarification of the role of the industry in the gasification of regions. It is necessary to mention the active participation of the industry in the formation of potential gas consumers, initiating and supporting an innovative eco-oriented management system in the economic and social sectors, as well as in households.

Thus, the problem of diversification, innovation and integration of enterprise transformation in the LNG industry with increased impact on the external environment of the enterprise based on the provision of energy resources for the development of alternative innovative environmental-oriented production in the regions of Russia is relevant.

The purpose of the dissertation research is to develop a methodological approach to the diversification, innovation and integration transformation of enterprises in the LNG industry with increased impact on the external environment of the enterprise based on the provision of energy resources for the development of alternative innovative eco-oriented industries in the regions of Russia.

The main objectives of the study:

1. To determine the need for proactive adaptation of LNG industry enterprises to strategic changes with increased impact on the external environment of the enterprise through network organizations and engineering services.
2. To identify the need for diversification of LNG industry enterprises towards the development of domestic markets for distributed production and sales through the development of an integrated strategy for the development of LNG industry enterprises.
3. To form methodological foundations for proactive management of LNG industry enterprises based on the implementation of cycles of diversification, innovation and integration strategies.
4. To develop approaches to the formation of integration mechanisms and institutional environment for the development of the LNG industry enterprise-production based on the creation of internal gas hubs and integrated production and transport structures.
5. To reveal the algorithm for the formation of internal gas hubs based on strategic partnership with the subjects of the regional economy, including the necessary changes in the organizational structure of the LNG production enterprise.
6. To determine the basics of an integrated state-corporate strategy for the development of LNG production enterprises in the conditions of transformation of energy resources of the regions.
7. To reveal potential positive and negative consequences of LNG-gasification, to develop a model for assessing the readiness of regions for gasification and for evaluating the effectiveness of the formation of an integrated state-corporate development strategy.

The subject of the study is economic and managerial relations in the LNG production and distribution sectors in the process of diversification, innovation and integration transformation when building an innovative eco-oriented economy of the Russian regions.

The object of the study: enterprises of LNG production and distribution industries.

The theoretical basis of the study is based on the use of the theory of transformation of economic systems, innovation, diversification and integration development, theories of development of industry and regional economy, theories of transport systems, marketing, analysis and forecasting of market conditions, competition, as well as the theory of strategic management. The works of Russian and foreign researchers dealing with optimization of functioning and development

of the gas complex and regional development are used as theoretical sources in the work.

The methodological basis of the study is based on the use of systematic and statistical analysis and synthesis, which allowed us to obtain scientific and practical results in the field of diversification, innovation and integration development of enterprises in the LNG industry with increased impact on the external environment of the enterprise based on support for the development of alternative eco-oriented industries in the regions in the conditions of transformation and diversification of markets.

The information base of the study is presented by open data published in open resources of ministries and departments, statistical reports at the federal and regional levels, analytical materials of international organizations, research materials of Russian and foreign scientists and practitioners, analytical data and strategic development programs of corporations and enterprises.

The scientific novelty of the research results lies in the improvement of the strategy and the development of mechanisms for diversification, innovation and integration transformation of enterprises in the LNG production industry of the domestic market of Russia with intensification of the impact on the external environment of the enterprise through the creation of internal gas hubs and integrated production and transport structures of LNG production and distribution, ensuring the development of alternative innovative eco-oriented production and consumption in the regions using gas as an environmentally and economically efficient energy resource.

The main elements of **scientific novelty** are as follows:

1. It has been determined that as a reaction to the processes of transformation the company of the LNG industry needs to develop a system of proactive management of internal and external business processes and the production system of enterprises both on the basis of internal development and increased impact on the external environment of the enterprise. In contrast to the existing approaches, it is shown that the transformation of the LNG industry enterprise should be carried out on the basis of support for the development of stakeholders in the regions of the enterprise, including target consumer segments of the manufactured products – enterprises and households operating or potentially developing in the areas of creating alternative innovative eco-oriented production and consumption and showing demand for environmentally efficient energy resources and, above all, gas.

2. There has been revealed the necessity of diversification of the industrial enterprises of LNG production towards the development of domestic markets for

distributed production and sales through the development of an integrated strategy for the development of LNG production enterprises using preferences strategies for the state development of gasification of the regions of Russia by initiating the development of a segment of alternative innovative eco-oriented industries in the economic and social sectors, as well as methods and technologies for the functioning of households using gas as an environmentally and economically efficient energy resource. In contrast to the existing approach, there has been worked out a classification of Russian regions according to the main factors of their need to switch to economically and environmentally efficient gas supply as a basic energy resource based on the concept of network territorial placement with medium and low-tonnage production. Besides, the zone of potential demand for gasification in general and for LNG gasification according to geographical, technological and social principles has been clarified and expanded, which makes it possible to determine the role of LNG production enterprises in ensuring energy efficiency (energy intensity and energy security) of the economy.

3. There have been formed methodological foundations of proactive management of the development of enterprises in the LNG industry aimed at developing the potential of enterprise adaptation to possible strategic changes, as well as readiness to transform the business model due to cycles of diversification, innovation and integration changes both within the enterprise and external environment, the formation of new relationships with existing and potential stakeholders in the product sales markets. In contrast to existing approaches, the methodology of integration diversification of the development of LNG production enterprises is based on the study of the potential of the region and LNG production enterprises for gasification of specific regions and the definition of mechanisms for its implementation, which allows to achieve tactical and strategic goals for the development of the regional economy and competitiveness of the industry and LNG production enterprises in the regional energy markets.

4. There have been worked out approaches to the formation of integration mechanisms and institutional environment for the development of an enterprise in the LNG industry based on the creation of internal gas hubs and integrated production and transport structures. In contrast to existing approaches, the network multilevel structure of internal gas hubs allows the company to provide the LNG industry-deep penetration into regional markets and long-term ties with other stakeholders in the development of an innovative eco-oriented management system in the regions, and the creation of integrated production and transport structures allows to solve the current problems of enterprise development by participating in the processes of gasification of regions, which makes it possible through

comparative characteristics of the proposed institutional systems to determine the strategy of enterprise development in domestic markets.

5. There has been revealed the algorithm of formation of internal gas hubs, based on strategic partnership with regional economic entities in ensuring the business process of production life cycle, transportation, storage, regasification, gas distribution from the producer to the final consumer. In contrast to the existing approaches, it is shown that the formation of internal gas hubs initiates changes in the organizational structure of the industry enterprise LNG production based on the formation of divisions responsible for both the activities of companies in the regions, as well as product sales, and for the activation of interactions with consumers and other interested parties, including the participation of LNG production enterprises in the formation and support of alternative innovative eco-oriented production and consumption in the regions.

6. The research has defined fundamentals of the integrated state-corporate strategy for the development of LNG production enterprises in conditions of transformation of energy resources of the regions, including problem-oriented, project-oriented, eco-oriented, socially oriented and innovative and developed approaches both at the regional level and at the level of enterprises in the LNG industry. In contrast to the existing approaches, the integrated state-corporate strategy assumes a high degree of mutual penetration of the strategies of individual parties and equality of development priorities of each party, formed as a result of a certain optimization procedure, which requires a change in the business model of the enterprise of LNG production, which, among other aspects of the activity of enterprises should consider the formation of an innovative eco-oriented economy of the regional development.

7. The paper has revealed potential positive and negative consequences of LNG gasification for regional stakeholders and developed a model to assess the readiness of regions for gasification, taking into account favorable and unfavorable factors. In contrast to the existing approaches, the assessment of the effectiveness of the formation of an integrated state- corporate strategy for the development of enterprises in the LNG industry can be carried out using the developed «integrated» approach through a multi-level system of economic, ecological, socio-political indicators for all stakeholders of the gasification process.

Theoretical and practical significance of the study

The theoretical significance of the study lies in the analysis and systematization of the combination of concepts of the development of transformation processes and strategic changes in economic systems as the basis for improving the system of proactive management of enterprises in the regions on

the basis of their diversification, innovation and integration development with increased impact on the external environment enterprises in the system of alternative innovative eco- oriented industries through the creation of internal gas hubs and integrated production and transport structures for gas production and distribution.

The practical significance of the study consists in the development of strategies and mechanisms for the development of enterprises in the LNG industry with increased impact on the external environment of the enterprise, as well as methods of integration diversification of the development of enterprises in the LNG industry, including recommendations for the formation of a system internal gas hubs, changes in the organizational structure of the LNG industry enterprise, assessment of the readiness of regions for gasification, assessment of the effectiveness of the gasification process of regions and the activities of LNG industry enterprises in the process of diversification into the domestic markets of Russia.

The main theoretical, methodological and applied research results can be used in the activities of LNG production enterprises, as well as in the development of regional and federal programs for socio-economic development and gasification of regions.

The approbation of the study. The results of the research were used in the activities of Novatek PJSC, as there is a certificate of implementation. Also, the research results were used in the analytical work of the Ministry of Industry, Trade and Investment of the Republic of Buryatia, and practical recommendations were used in updating the strategy of socio-economic development of the Republic of Buryatia.

The results of the study were reported at interuniversity scientific and methodological and international scientific and practical conferences.

The structure of the dissertation work. The dissertation work consists of an introduction, three chapters, a conclusion and a list of references (267 sources). The total volume of the dissertation is 208 pages, 22 tables, 39 figures.

