Potentialities of ensuring the resource efficiency of the regional economy

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Abstract. The resource-efficiency of the development of the regional economy is in a way a universal criterion used for both making managerial decisions and assessing their efficiency. This category is grounded in the concept of the territory's resource potential, the composition, structure, and state whereof determines the region's capabilities and its place in the national economic system. The author provides a classification of factors that determine the potentialities of the effective use of the region's resources, examines the characteristics for the conditions of a single-raw-material territory, and determines the nature of interaction between corporations and the regional (local) authorities within the frame of implementing resource-efficiency projects.
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Introduction

One of the crucial indicators of the quality of managing regional development is the fullness of using the territory's potential. This is a degree to which the constituent's potential is realized, which is associated not only with the availability of certain resources, their specific characteristics, and the degree to which they are ready for use but the territory's place and role within the general system of the national economy [1]. In this regard, what is becoming increasingly topical is activity related to identifying cause-and-effect linkages and factors determining both the region's potential and the degree to which they are realized in terms of attaining optimum conditions and indicators of the resource efficiency of the national economy.

As a rule, resource efficiency is construed as a long-term and qualitatively determined dimension of activity that helps ensure the competitive advantages of a particular industry or the region as a whole and is oriented towards attaining goals set based on the rational distribution of internal resources and a flexible reaction to changes in the outside environment. The above conditions help attain maximum efficiency with optimum costs and the use of innovation technology.

Based on the above, the groundwork for ensuring the resource efficiency of any constituent is its resource potential with specific properties and qualities inherent to it, which, in turn, are determined by the characteristics of the resource components. The region's resources are the objective basis for realizing social-economic development objectives, and, that said, they are subject to goal-oriented change, based on goals set. Therefore, goals and resources form an indissoluble unity, an integral object of forecasting social-economic development. Resource potential is a system of resources, an interrelated aggregate of means (material-physical, energy, labor, and information) used in the process of the economic and social-economic activity of entities within the territory [2].

However, resources similar in quantity and quality can possess different potential depending on the degree to which they are used. Thus, resource potential characterizes not only types of resources but the degree to which they are used, the ability to create a useful effect. In analyzing the state of and forecasting resource potential, there is a possibility of isolated examination of specific types of resources. However, in the process of economic development there occurs an expansion of the composition of production resources. These include: natural, labor, and investment resources, scientific-technical progress, information resources, and entrepreneurial capacity. Therefore, we have to take into account the conjugate effect attained through the availability of a particular structure of regional resources, which helps achieve goals set with minimum costs [3].

Thus, it is expedient to ground the differentiation of factors in the attainment of resource efficiency in the development of the economy in criteria for the fullness of the use of the territory's resource potential, which may include [4]:

- growth in the efficacy of the use of resources that form the region's resource potential in the process of production;
- growth in the role of high-quality resources in the structure of the region's resources used;
- growth in the share of such types of resources as innovation, information, and knowledge in the structure of resources used.

Growth in the efficacy of the use of resources entails growth in demand for them and, as a

consequence, growth in prices for resources in the region. Whereas growth in demand for the region's resources, in turn, facilitates a fuller engagement of the region's resources in processes of production of goods and services.

The efficacy of the use of resource potential is determined both by the fullness of engaging resources in production processes and the efficacy of technological processes wherein these resources are used. Consequently, the efficacy of the use of the region's resource potential can be examined at specific stages of its formation [5]:

1. The formation of resource potential, its structure, and the qualitative characteristics of its component elements.
2. The engagement of resources in economic processes.
3. The use of resources in the process of the territory's social-economic activity.

Each of the above stages is characterized by particular factors impacting on the fullness of realization of regional resource potential – external and internal (in relation to the region's economy). The external factors include: a) production factors markets; b) sales markets; c) regional industrial policy; d) infrastructure. The internal factors include: a) technology and technological equipment used; b) the qualification level of personnel and the management team; c) innovation activity; d) the quality of resources used [6].

In considering the issue of boosting the efficacy of the use of resource potential for the conditions of a single-raw-material region, we have to take account of the fact that a sufficiently specific and homogeneous resource base makes, on one hand, for a competitive advantage of the territory under study and a potentiality to ensure the efficacy of social-economic development, and, on the other, does not let one be a full participant in the setting of national economic interaction, which is reflected in the characteristics of the formation of the internal regional environment and the use of other resources (labor, innovation, information, etc.). In this regard, what comes to the forefront is the concept of creating various types of associations predicated on interregional interaction with a view to using limited resources from various regions. Such associations may include [7]:

- those based on large corporations located in different territories, which act as backbone enterprises and, consequently, are the primary sources of the formation of local budgets (Khanty-Mansi Autonomous Okrug (KhMAO)-Yugra, Yamalo-Nenets Autonomous Okrug (YaNAO), etc.);
- those organized on the basis of branches (representative establishments) of large competitive companies (including vertically-integrated) – branches with poor enterprise resource potential.

The success of realization of resource-efficiency programs in large measure depends on the attractiveness to steadily operating business. For instance, private establishments can create firms that provide services in the area of energy conservation and offer enterprises and organizations the latest resource-saving technology. In this case, we are talking about integration between large (e.g., oil-and-gas) corporations and independent business. The role of such implementation centers can be assigned to small and medium-sized business enterprises that work out and implement business projects in the area of resource efficiency and resource conservation (Figure 1) [8].

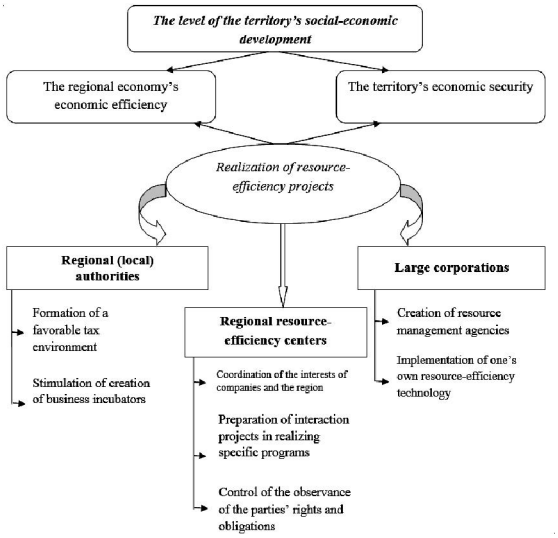

Figure 1. Intraregional interaction in realizing resource-efficiency projects

Figure 1 illustrates the process of interaction between participants in resource-efficiency projects, within the frame whereof a particular role is assigned to regional resource-efficiency centers, whose activity the public (which determines the overall atmosphere in relation to resource-saving initiatives), as well as representatives of regional authorities, can take part in [9]. Apart from the objective topicalness of such projects amid the limitedness of all types of resources (including energy) and the need for a fuller use of them, under such an approach one resolves the objective of ensuring the efficacy of the region's social-economic development – boosting the population's standard and quality of living both through ensuring growth in income and optimizing their structure and through boosting the territory's sustainability and competitiveness, which is attained, inter alia, through ensuring the production of the end

product with the use of available resource potential [10].

Thus, we can conclude that resource potential, being an element of the territory's economic potential, acts as a foundation, a basis for the choice of regional development strategy. For the conditions of Ural Federal Okrug (UFO), we conducted an assessment of the okrug's economic potential using the proposed methodology (Table 1).

Table 1. The cumulative indicator of the economic potential of the UFO regions

#	Potential assessment indicators	Size of the estimate of the i[th] indicator					
		1	2	3	4	5	6
		South of Tyumen Oblast	KhMAO	YaNAO	Kurgan Oblast	Sverdlovsk Oblast	Chelyabinsk Oblast
	Resources						
1	Volume of reserves of gas	0.0005	0.0424	0.2089	0.0006	0.0002	0.0005
2	Volume of reserves of oil and gas condensate	0.0276	0.2854	0.0318	0.0042	0.0015	0.0149
3	Volume of reserves of iron ores, million tons	0.0207	0.0002	0.0001	0.2154	0.5972	0.0010
4	Volume of reserves of copper	0.0012	0.0004	0.0003	0.0027	0.6426	0.0022
5	Volume of reserves of peat	0.0009	0.0003	0.0002	0.3127	0.0008	0.0017
6	Volume of reserves of coal (brown+bituminous)	0.0035	0.0011	0.0008	0.0080	0.2668	0.6311
7	Agricultural area	0.116	0.007	0.001	0.247	0.075	0.319
8	Areas under crop	0.109	0.000	0.000	0.256	0.091	0.338
9	Forest area	0.021	0.025	0.015	0.012	0.033	0.014
10	Water area	0.003	0.005	0.018	0.005	0.001	0.003
	LABOR POTENTIAL						
11	Number of those employed in economy	0.048	0.066	0.068	0.044	0.048	0.046
12	Size of economically active population	0.010	0.013	0.014	0.009	0.010	0.009
13	Number of those employed in production sphere	0.027	0.038	0.042	0.030	0.028	0.029
	CAPITAL						
14	Value of key assets	0.005	0.223	0.214	0.031	0.046	0.040
15	Volume of industrial output	0.020	0.336	0.228	0.016	0.050	0.005
16	GRP volume	0.023	0.196	0.158	0.015	0.029	0.026
17	Volume of agricultural output	0.059	0.009	0.004	0.055	0.028	0.026
18	Size of investment in core capital	0.017	0.207	0.379	0.005	0.013	0.015
19	Size of foreign investment	0.004	0.012	0.054	0.000	0.009	0.043
20	Territory's budget revenue	0.028	0.076	0.112	0.008	0.009	0.008
	OVERALL INDICATOR OF POTENTIAL	0.54	1.54	1.55	1.28	1.98	1.57

The study substantiated that the federal okrug's resource base makes it possible to effect integrated development of all of its sectors. The resulting cumulative indicators are comparable for the objects under study; however, their structure attests to different capacities both within the frame of the resource block and in terms of other components. The use of information obtained made it possible to make changes to the strategy for further economic development and the choice of its priority dimensions for ensuring integrated development of territories, as well as to form a target structure of sectors within UFO (Figure 2).

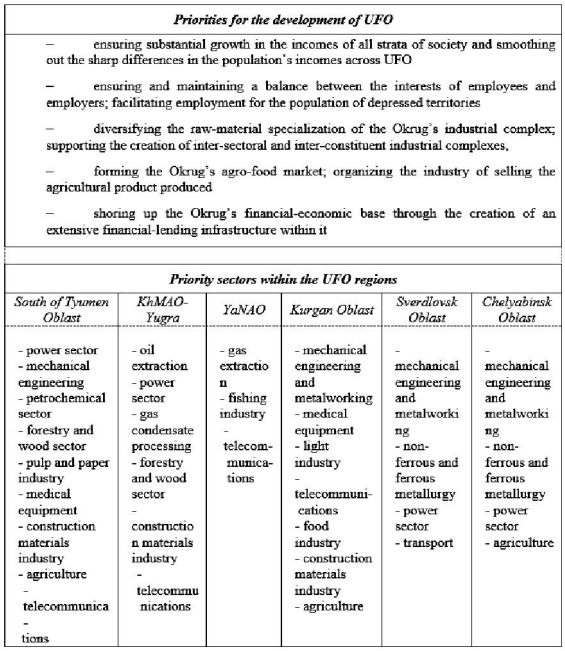

Figure 2. The priorities for the development of the UFO regions

Based on the above, we can note that the efficacy of activity in attaining resource efficiency in the regional economy is, above all, associated with ensuring rational organizational-economic interaction between economic entities and the authorities within the frame of the fuller use of the territory's economic potential.

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References

1. Nikulina, Ye., 2013. The Formation of Priority Directions of Social and Economic Development of the Region. World Applied Sciences Journal, 22(5): 608-615.
2. Fedorova, O.B. and E.L. Chizhevskaya, 2014. Adapting Intellectual Property Evaluation Methods to the Region Brand Evaluation. Middle-East Journal of Scientific Research, 19(1): 24-28.
3. Shilova, N.N. and N.A. Golubnichiy, 2009. Assessment of the State of Markets Promising for Industrial Enterprises in Tyumen Oblast. Neft, Gaz i Biznes, 2: 65-68.
4. Chizhevskaya, E.L. and O.Yu. Nazarova, 2010. Diversification of the Structure of the Economy

of Khanty-Mansi Autonomous Okrug (Yugra) as a factor in its Competitiveness. The Region's Economic Policy: In the Proceedings of the All-Russian Research-to-Practice Conference. Tyumen: Izdatelstvo TyumGNGU, pp: 361-365.
5. Chizhevskaya, E.L. and O.B. Fedorova, 2013. Development of Small and Medium-Sized Business as a Condition for Attaining Resource Efficiency in the Economy. Problemy Ekonomiki i Upravleniya Neftegazovym Kompleksom, 9: 11-13.
6. Zagoruiko, I.Yu. and E.M. Frolovich, 2012. An Investigation into the Development and Optimization of Small Enterprises in Russia amid the Global Downturn. Vestnik Permskogo Universiteta, 3.
7. Nazmutdinova, Ye.V., 2013. Methodological Aspects of Determining the Potential of Clusterization of the Region's Economy. Ekonomika i Predprinimatelstvo, 11: 259-262.
8. Chizhevskaya, E.L. and S.A. Filatov, 2010. Focus Areas of the Formation and Realization of the Resource-Efficiency Strategy for the Region's Development. Neft, Gaz i Biznes, 2: 46-50.
9. Naznutdinova, Ye.V., 2014. Major Trends in the Development of the Mechanical Engineering Sector in the South of Tyumen Oblast. Ekonomika i Predprinimatelstvo, 2 (43): 96-103.
10. Shilova, N.N. and I.V. Fedoseyev, 2013. Self-Regulation in the Real Sector of the Economy: A Search for Rational Compromises. Mir Ekonomiki i Prava, 6.

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