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ROAD MAPPING METHOD IN IMPLEMENTATION OF REGIONAL CLUSTER POLICY

The development of clusters, the development and implementation of cluster policy are among the strategic objectives of the eight federal districts of the Russian Federation. The documents of strategic planning of ten subjects of the Russian Federation are analyzed. It is noted that the directions of the cluster policy are mainly reflected in the strategy of the socio-economic development of the region or in a separate section in the industrial (innovation) policy, the activities are scattered across various regional programs. The relevance of the research topic is predetermined by the fact that the mechanism for implementing the cluster policy is not spelled out and its directions may remain the declared intentions of the authorities. The lack of comprehensive data on the implementation of measures to support and develop clusters within the framework of all regional programs does not allow assessing the effectiveness of the cluster policy as a whole. The purpose of the study was to substantiate the possibility of applying the methodology of road mapping for the implementation of the cluster policy of the region. Based on the Foresight technology, a model of the roadmap for the implementation of the regional cluster policy has been drawn up, which includes activities that are interrelated in terms of goals, financial resources, deadlines and implementers. In contrast to the current road mapping documents, the proposed model is supplemented with a text part describing the areas of development of the cluster economy, expected results, as well as target indicators of the results of the implementation of cluster policy. Establishment of baseline and planned indicators with a breakdown by years and stages of the implementation of the cluster policy will provide an opportunity to determine the results achieved (effectiveness) and the ratio between the achieved result and the resources expended (efficiency).

Keywords: cluster, region cluster policy, road map, target indicators, methods of public administration.

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ПРИМЕНЕНИЕ ДОРОЖНОГО КАРТИРОВАНИЯ РЕАЛИЗАЦИИ КЛАСТЕРНОЙ ПОЛИТИКИ РЕГИОНА

Развитие кластеров, разработка и реализация кластерной политики входит в число стратегических задач восьми федеральных округов Российской Федерации. Проанализированы документы стратегического планирования десяти субъектов Российской Федерации. Отмечено, что направления кластерной политики в основном отражены в стратегии социально-экономического развития региона или отдельным разделом в промышленной (инновационной) политике, мероприятия рассредоточены по различным региональным программам. Актуальность темы исследования предопределена тем, что механизм реализации кластерной политики не прописан и её направления могут остаться продекларированными намерениями власти. Отсутствие комплексных данных о выполнении мероприятий по поддержке и развитию кластеров в рамках всех региональных программ не позволяет оценить результативность кластерной политики в целом. Цель исследования заключается в обосновании возможности применения методологии дорожного картирования для реализации кластерной политики региона. Основываясь на технологии Форсайт, составлена модель дорожной карты реализации кластерной политики региона, которая включает мероприятия, взаимоувязанные по целям, финансовым ресурсам, срокам и исполнителям. В отличие от действующих документов дорожного картирования, предлагаемая модель дополнена текстовой частью с описанием сфер развития кластерной экономики, ожидаемых результатов, а также целевыми индикаторами результатов реализации кластерной политики. Установление базовых и плановых показателей с разбивкой по годам и этапам реализации кластерной политики обеспечит возможность определения достигнутых результатов (результативности) и соотношения между достигнутым результатом и затраченными ресурсами (эффективности).

Ключевые слова: кластер, кластерная политика региона, дорожная карта, целевые индикаторы, методы государственного управления.

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The research relevance and problem statement. In Russia, government takes a special role in the clusters' development. Clusters are a significant alternative to the sectoral planned economy and unite all areas of science, education, government and business. The clusters' development, cluster policy (hereinafter — CP) development and implementation are among the strategic objectives of the eight Russian Federation federal districts. A regional CP is understood as a set of government measures aimed at the development of clusters, cluster development centers, cluster infrastructure facilities that ensure the growth

of innovation, import substitution, labor productivity and wages, gross regional product and regional economy within the framework of region's socio-economic development strategy. Currently, the CP Concept of the Yaroslavl and Novosibirsk regions is being implemented, with separate sections of the CP direction included in the industrial policies of the Moscow and St. Petersburg cities, the Tatarstan republic, the Altai territory¹. In most constituent entities of the federation, the CP directions are defined in the regions' socio-economic development strategies, for example, Krasnodar and Stavropol territories, Rostov oblast and other regions. Funding for measures of clusters government support is carried out at the expense of the federal and regional budgets, subject to the cluster inclusion as a participant in the government program.

Methodological Recommendations is the main document that guides the regional authorities for the cluster policy implementation in the constituent Russian Federation entities². They indicate: the CP goals and objectives; the main directions of promoting the clusters development; possible options for measures to implement the CP; measures to prevent the risks of ineffective implementation of the commercial proposal; possible results of the CP implementation. However, there are no recommendations for the development of a roadmap (hereinafter — RM) or an action plan for the CP implementation in the document. It can be assumed that the regional authorities should independently, on an initiative basis, develop a mechanism for implementing the CP directions.

The need to develop a RM for the CP implementation is predetermined by some factors.

1. Given the long term of cluster projects implementation, the CP may lose its effectiveness if the choice objects for support later turns out to be suboptimal. The fundamental risks' reason lies in the fact that after the subsidies allocation and the initial support provision, the government is effectively eliminated from joint work on the cluster development. Over the years, the management system has been demonstrating its inability to ensure the implementation of periodically formulated strategic goals for economic development and regional policy [12]. Monitoring and evaluating the performance of clusters serve as an information basis for the subsequent adjustment of the objects list, volume of the government support, development mechanisms [1].

2. Funds for financing government support measures allocated for the clusters development are scattered across various government programs, their spending, in some cases, is not tied to the CP implementation. The results of the sectoral clusters development are reported at the level of the relevant sectoral ministries. In turn, the procedure for the formation of summary information on the results of the CP implementation is not regulated. At the same time, there are risks that the directions of the CP may remain the declared intention of the constituent Russian Federation entity authorities.

3. CP is developed for the implementation period of the region's socio-economic development strategy. CP refers to strategic planning documents and falls under the control³. However, the data analysis on the implementation of strategic planning documents results

¹ Results information on the implementation of strategic planning documents results posted on the Russian Federation entities constituent administrations official websites.

² Methodological recommendations for the cluster policy implementation in the constituent RF entities, letter dated December 26, 2008 No. 20615-ak/d19.

³ Russian Federation Government Decree of December 26, 2015, No. 1449 "On the procedure for developing, adjusting, monitoring and controlling the implementation of plans for the activities of federal executive bodies, the activities of which are managed by the Russian Federation Government".

posted on the Russian Federation entities constituent administrations official websites, and control results posted on the State and Municipal Financial Audit Portal⁴, makes it possible to form the opinion that control over the CP implementation in the regions is not carried out. The main risk is the lack of CP adjustments in the implementation process.

This indicated problems predetermined the study relevance.

The study purpose is to substantiate the possibility of applying the road mapping methodology for the CP implementation in the region.

The study hypothesis is based on the assumption that RM as a management technology will ensure control over the CP implementation and make informed management decisions in the event of its adjustment.

The methodological basis for studying the cluster development issues, development and implementation of CP is based on the works of foreign [18–24; 29] and Russian scientists [1; 6; 8; 11]. In the historical aspect, prototypes of modern clusters existed in Russia long before M. Porter introduced the term “cluster”. The cluster theory was formed in the mainstream of Soviet economic geography, starting with territorial production complexes [7], research and production associations and intersectoral industrial complexes [2; 13; 16]. Russian scientists continue to discuss CP issues formation, place and role of the government in the cluster development process, cluster management mechanisms [5; 6; 8; 10; 11; 17; 25; 26], however, the regional aspect of managing the process of CP implementing has not been fully studied.

The RM research methodology is based on the Foresight methodology [9]. The most common tools of the Foresight methodology are RM, the choice of priorities and the construction of future images.

The study information base was the data posted by the Russian Federation constituent entities administrations on the official websites; Rosstat; State and Municipal Financial Audit Portal; “Geoinformation system. Industrial parks. Technoparks. Clusters” Portal; Russian cluster observatory; Russian clusters and cluster development centers official web sites.

Cluster policy and Road-mapping in public administration.

Clusters all over the world have become government policy objects [31]. Framework conditions’ formation, search and selection of tools for the CP implementation take the significant role. CP is considered as a tool for increasing the region competitiveness, a set of programs for the clusters development, cluster projects, within the general strategy framework [30]. The CP is aimed at the development of existing economic agglomerations to the clusters level, which should contribute to a more complete disclosure of the potential of the region [27]. Competitive cooperation, according to the Organization for Economic Cooperation and Development (OECD), is necessary for innovative development and leads to the emergence of regional clusters — geographically concentrated networks of suppliers, buyers and institutions and value chains [28].

Based on the M. Enright theory, a mainly directive CP is being implemented in Russia. Russian CP provides for the implementation of measures of government support and special programs to change the regions specialization through the clusters development [22].

The peculiarity of The Russian clusters’ government management is the management of the economy clustering mechanism, which covers the business community, scientific organizations that are the main developers of innovative products, government corporations and public-private partnerships.

⁴ Government and municipal financial audit portal. URL: <https://portal.audit.gov.ru/>

Model of target indicators of the results of the implementation of regional cluster policy

№	TI (target indicators)	Plan / fact	Base 2020	First control stage 31.12.2023			Second control stage 31.12.2027			Third control stage 31.12.2030		
				Total TI value by year								
				2021	2022	2023				2028	2029	2030
1	The clusters which have been adopted the cluster development strategy, units	plan	1	3	x		x	x	x	x	x	x
		fact										
2	Labor productivity growth rates at enterprises forming clusters ¹ , %	plan	5.5	6.5	7.0					9.0	9.8	9.9
		fact										
3	Investments growth rates in enterprises forming clusters, %	plan	7.5	8.8	12.5					25.0	30.0	35.0
		fact										
4	Growth rates of non-resource high-tech exports of enterprises forming a cluster, %	plan	4.8	5.3	12.5					23.8	44.0	54.0
		fact										
5	The innovative products share in the total volume of goods shipped ² , %	plan	10.0	15.0	25.0					50.0	60.0	70.0
		fact										
6	Gross value-added share created by clusters in GRP, %	plan	20.0	25.0	35.0					45.0	50.0	52.0
		fact										
7	The total number of SMEs, including individual entrepreneurs, included in the clusters ³ , units	plan	25	50	80					160	180	240
		fact										
8	Total number of jobs created in organizations participating in clusters per year, units	plan	55	100	100					100	100	100
		fact										
8.1	including high-tech places, units	plan	10	35	35					35	35	35
		fact										

Source: by author.

¹ As part of the National Project implementation “Labor Productivity” ensures the formation of a new industrial culture in the Russian Federation.

² As part of the National Project implementation “International Cooperation and Export”.

³ As part of the National Project implementation “Small and Medium Business and Support for Individual Entrepreneurial Initiatives”.

* The final target is calculated compared with the 2020 base year.

Proposals set for the use of the RM tool is implemented in the formation and implementation of the government scientific and technical policy [15]. RM is considered as a step-by-step scenario for the certain object development. RMs are modern tools for optimizing the regional management system [3]. RM is recognized as one of the effective planning methods, forecasting and management in the economics field. The RM method is one of the most effective in the strategic planning of the economic objects development [14]. The RM result is a plan that takes into account alternative paths for the object development and outlines the points for making strategically important decisions. As a rule, two goals are distinguished: first — foreseeing and planning the development of the situation, at various technological, social, economic and political levels; the second is managing the process of achieving the set strategic objectives (designing the future). In general, RMs are aimed at providing information support to the process of making managerial decisions on the mapping object development [4].

An analysis of the existing RMs confirms the widespread use of this technology in the public administration field at the federal and regional levels. However, most RMs do not contain a step-by-step scenario for their implementation, financial indicators and reporting procedure. As a result, they do not fit into the existing system of financial control, and the lack of control results, in turn, does not allow adjusting the RM in accordance with the changes arising in the process of implementing regional strategic planning documents. In addition, among a significant number of such documents, there is no RM for the CP implementation in the region. The study objective is to describe the RM model for the CP implementation in the region, the target indicators model (hereinafter — TI) of its results and justify their use in the process of monitoring, current and subsequent control. The results of assessing the CP effectiveness and efficiency will allow making management decisions on its updating and / or adjustment.

Roadmap model description for the cluster policy implementation. The results of the strategic planning documents analysis of the Tatarstan Republic, Krasnodar and Yaroslavl regions, such as the regions' socio-economic development strategy until 2030, regions' innovative development strategy until 2030, regional programs containing activities to support clusters, "Economic development and innovative economy", "Development of industry and increasing its competitiveness"; "Development of tourism in the region", "Agriculture development and agricultural products and food markets regulation", "Development of energy" formed the basis for the development of the RM for the CP implementation in the region, the structure of which differs from most existing RMs.

Regions cluster policies are mainly limited by the goals or directions of development. The proposed RM for the CP implementation, along with the traditional tabular form, in contrast to similar existing documents, is supplemented with a passport, a brief description of the areas of development of the cluster economy of the region and the results of the CP implementation.

The RM passport contains the following information: the composition of the working group for the CP formation; responsible executors; CP objectives; TI list of the CP implementation results; stages and terms of implementation; directions of implementation; significant control results of the CP implementation; the total amount of financial support, including an amount assessment of the government support for cluster development activities.

A brief description of the current and expected results of the cluster economy development contains the following information: on structural and technological changes

in the industries that are in the CP implementation field; on the expected socio-economic effects from the CP implementation in the medium and long term; on the development of the taxable base; on the results of growth in the volume of innovative products; on the diversification of the region's economy and the development of inter-cluster ties, etc. The RM provides for the interaction of enterprises-members of the cluster, subjects of cluster infrastructure, the regional cluster development center, government bodies in the process of CP implementing. Each direction of the CP implementation contains: activities list, the implementation of which creates guarantees for the implementation of this direction (goal); responsible executors; deadlines; the amount of financing (if any); expected results. Within the framework of approbation, a model of the RM for the regional CP implementation and a TI model of the results of its implementation were drawn up. A distinctive feature of the RM model from the existing similar documents is to establish the amount of funding for RM activities, which are provided for in government programs.

The proposed RM model provides for the implementation of five CP areas: the formation of a regulatory legal framework for the CP implementation in the constituent Federation entity and informing the public; creation and development of cluster infrastructure; content of the Federal IT Cluster Platform; development of the personnel potential of the constituent Russian Federation entity; implementation of government support measures — targeted subsidies (grants) to cluster entities. List of activities has been determined in each direction, the executors (co-executors), the target dates for implementation, the financial support amount, including budgetary funds provided for in the government programs framework, and the expected results are indicated. Representatives of the regional authorities, the cluster development center and cluster organizations participate in the RM development. For example, the implementation of measures in the direction of "Implementation of measures of government support for clusters by providing targeted subsidies (grants) within the framework of government programs" is entrusted to the Ministry of Finance of a constituent Russian Federation entity (provision of targeted subsidies within the framework of a project to create high-performance jobs) and the Ministry of Economy of a constituent Russian Federation entity (provision of grants as part of the project to increase the innovative products volume). The deadlines for the implementation of measures and the amount of allocated budget funds correspond to the indicators established in the relevant government programs.

Assess the goals and results achievement of the CP implementation is possible if there are assessment criteria with predetermined parameters that can be quantified and are significant from the point of view of the tasks implementation. The following indicators can be used as TI: growth in the production volume of goods, works, services; growth of labor productivity at enterprises belonging to the cluster; creation of new and high-tech jobs; ensuring the competitiveness of domestic enterprises; growth of non-resource and high-tech exports of goods and services; an increase in the number of small and medium-sized enterprises; accelerated development of the innovative sector of the economy; increasing the efficiency of the training system for the economy; ensuring the growth of direct domestic and foreign investment; stimulating the region socio-economic development. If possible, the indicators should be consistent with the TIs established in government programs in terms of cluster development activities. The TI proposed model for the results of the CP implementation (table) has distinctive features from the TI lists of the current program documents, namely: the establishment of the planned (predicted) values of the TI, broken

down by years for the entire period of the implementation of the TI, as well as three control stages of the TI achievement. The CP implementation is an ongoing process, and in case of failure to meet the intended goals, timely correction of the document is required. In this connection, for the period of RM implementation (for example, 10 years), it is advisable to check the implementation of the TI for the implementation of the CP every three years and, if necessary, to assess the effectiveness (the degree of implementation of the planned activities, achievement of the set goals is determined) and effectiveness (the ratio between the achieved result is determined and expended resources) CP implementation.

To assess the CP performance, statistical data are needed, the collection of which can be provided by the cluster development center and some ministries. The following statistical indicators are used: growth rates of the regional economy, including due to the growth of added value created by clusters; the funds amount from budgets, other centralized funds invested in the clusters creation and development, the growth rate of innovative products, etc. The RM implementation period coincides with the government programs implementation period, which provide for CP activities and resources for their implementation. Data on the start and end time of the implementation of measures are recorded and can be adjusted in the process of updating the RM. The executors of the RM on a quarterly basis submit information on the implementation of activities to the cluster development center, after which the summary reports are posted on the clusters Federal IT-platform.

Methodological developments are addressed to the CP developers and can be used in the relevant documents development or correction. The RM and TI models of the CP results implementation can be adapted for any region implementing the CP. The information contained in the RM, and subsequently reports on the measures implementation, will allow the authorized bodies to monitor and evaluate the CP effectiveness, update (adjust) the CP and ensure the management decisions implementation.

Conclusions. Region's cluster policy is not adequately reflected in strategic planning documents, is not interconnected with government programs by goals, TI, financial resources, deadlines and executors. The implementation of government support measures for clusters is carried out within the framework of government programs by various sectoral departments. RM for the implementation of the CP are not being developed. At the same time, there are risks that the directions of the CP may remain declared to the intentions of the regional authorities.

In the context of project management, the development and application of the RM for the CP implementation in the region will ensure the implementation of the declared intentions and feedback between the developers and executors of the commercial proposal. RM as a management technology can contribute to the public administration improvement, if it contains specific practical steps aimed at changing the state of the object; if they contain clear recommendations for making key management decisions, including taking into account changes in the managed object. The scientific novelty is in the methodological substantiation and development of a RM model for the CP implementation in the region. The RM ensures the standardization of the actions of the bodies and organizations executing the CP and contains a structured set of activities, the implementation of which creates guarantees of achieving the objectives of the CP implementation by monitoring and adjusting the process of their implementation. The RM activities are interconnected by goals, TI, financial resources, terms, stages and performers. The annual reporting on the implementation of the RM and the step-by-step control of the TI results achievement of the

CP implementation, the assessment of the effectiveness and efficiency of the CP make it possible to identify deviations, problems, receive objective information that allows making management decisions on its correction (updating). The execution results of this document will be in demand when conducting a CP effectiveness comprehensive assessment.

The research materials are addressed to the developers of the regional CP and government programs, including support measures and develop clusters, as well as cluster development centers specialists. The results of 20 participants survey of the All-Russian Scientific and Practical Conference “A New Paradigm for the Development of Economic Systems in the Context of Digitalization: Theory, Methodology, Management” confirmed the possibility of applying RM by authorized regional authorities, subject to its adaptation taking into account the current strategic planning documents.

References

1. Abashkin V. L., Boyarov A. D., Kutsenko E. S. (2012), Cluster policy in Russia: from theory to practice, *Foresight*, vol. 6, no. 3, pp. 16–27. (In Russ.).
2. Agafonov N. T. (1990), *Territorial organization of society: state and ways of renewal*, prepr. scientific report, N. T. Agafonov, M. N. Mezhevich, Leningrad, ISEP, 47 p. (In Russ.).
3. Gerasimov V. O., Puryaev A. S. (2019), Regional development strategy and the region's human capital management system taking into account the introduction of the Foresight technology system, *Ekonomicheskie i gumanitarnye nauki*, no. 11, pp. 97–107. (In Russ.).
4. Glushko E. A. (2014), Road maps in public administration, *Pravo i gosudarstvo: teoriya i praktika*, no. 11 (119), pp. 53–59. (In Russ.).
5. Golovanova S. V., Avdasheva S. B., Kadochnikov S. M. (2010), Inter-firm cooperation: an analysis of the development of clusters in Russia, *Rossiiskii zhurnal menedzhmenta*, vol. 8, no. 1, pp. 41–66. (In Russ.).
6. *Cluster policy: achieving global competitiveness* (2017), V. L. Abashkin, S. V. Artemov, E. A. Islankina and oth., Ministry of Economic Development of Russia, JSC “RVC”, NRU University Higher School of Economics, Moscow, NRU HSE, 324 p. (In Russ.).
7. Kolosovsky N. N. (1958), *Bases of economic zoning*, Moscow, Gosudarstvennoe izdatel'stvo politicheskoi literatury, 200 p. (In Russ.).
8. Kutsenko E. (2015), Pilot innovative territorial clusters of Russia: a model of sustainable development, *Foresight*, vol. 9, no. 1, pp. 32–55. (In Russ.).
9. Makarov S. A. (2020), Foresight and long-term strategy as instruments for regional development: the experience of the Republic of Tatarstan, *ECO*, no. 5 (551), pp. 175–191. (In Russ.).
10. Markov L. S. (2015), *Theoretical and methodological foundations of the cluster approach*, Novosibirsk, IEOPP SO RAN, 300 p. (In Russ.).
11. Markov L. S. (2006), *Economic clusters as a form of functioning and development of industry in the region: on the example of high-tech clusters in Novosibirsk*, IEOPP SO RAN, 186 p. (In Russ.).
12. Novoselov A. S., Marshalova A. S. (2019), Formation of a modern system of regional and municipal management, *ECO*, no. 8 (542), pp. 83–102. (In Russ.).
13. Probst A. E. (1982), *Problems of the placement of socialist industry*, Moscow, Ekonomika, 215 p. (In Russ.).
14. Saneev B. G., Sokolov A. D., Muzychuk S. Yu. (2019), Methodology of road mapping in strategic planning of the development of the fuel and energy complex of the region (on the example of the Irkutsk region), *Izvestiya Baikal'skogo gosudarstvennogo universiteta*, vol. 29 (4), pp. 660–669. (In Russ.).
15. Sokolov A. V., Chulok A. A. (2012), Long-term forecast of scientific and technological development of Russia for the period up to 2030, *Foresight*, vol. 6, no. 1, pp. 12–25. (In Russ.).
16. Khrushchev A. T. (1996), *Interindustry complexes of Russian industry*, Moscow, MSU Publ., 148 p. (In Russ.).
17. Tsikhan T. V. (2003), Cluster theory of economic development, *Teoriya i praktika upravleniya*, no. 5, pp. 43–51. (In Russ.).
18. Andersson T., Sylvia Schwaag-Serger, Jens Sorvik, Emily Wise Hansson (2004), *The Cluster Policies Whitebook*, IKED, 266 p.

19. Bergman E. M., Feser E. J. (1999), *Industrial and Regional Clusters: Concepts and Comparative Applications*, Regional Research Institute, WVU, 62 p.
20. Enright M. (1992), Why local clusters are the way to win the game, *World Link*, vol. 5, no. 4, pp. 24-25.
21. Enright M. J. (2000), The globalization of competition and the localization of competitive advantage: Policies toward regional clustering, *The Globalization of Multinational Enterprise Activity and Economic Development*, Hood N. Young S (ed.), Macmillan, London, pp. 303-331.
22. Enright M. J. (2002), Regional Clusters: What we know and what we should know, *Paper prepared for the Kiel Institute International Workshop on Innovation Clusters and Interregional Competition*, pp. 99-129.
23. Ketels C. (2013), Recent Research on Competitiveness and Clusters: What Are the Implications for Regional Policy? *Cambridge Journal of Regions, Economy and Society*, no. 2, pp. 269-284.
24. Ketels C., Lindqvist G., Sölvell Ö. (2013), *The Cluster Initiative Greenbook 2.0*, Ivory Tower Publishers, Stockholm, 92 p.
25. Konstantynova A. (2019), Cluster policy change and evolution: Facilitating regional smart specialisation and economic development, *International Journal of Globalisation and Small Business*, vol. 10(2), pp. 127-142.
26. Larionova N. I., Yalyalieva T. V., Napolskikh D. L. (2018), Global competitiveness, neoindustrialization and innovative clusters: International indicators and trends of Russian federation, *Revista Galega de Economía*, vol. 27 (2), pp. 125-138.
27. Porter M. E. (2008), *On Competition. Harvard Business Review Book*, Harvard Business Press, 544 p.
28. *Organization for Economic Cooperation and Development (OECD)* (1999), *Boosting Innovation, The Cluster Approach*, Paris, OECD, 418 p.
29. Porter M. E. (1996), Competitive advantage, agglomeration economies and regional policy, *International Regional Science Review*, 19, pp. 85-90.
30. Sölvell Ö., Lindqvist G., Ketels C. (2003), *The Cluster Initiative Greenbook*, Bromma tryck AB, Stockholm, 94 p.
31. Warwick K., Nolan A. (2014), *Evaluation of Industrial Policy: Methodological Issues and Policy Lessons*, OECD Science, Technology and Industry Policy Papers, OECD Publishing, Paris, 86 p.

Литература

1. Абашкин В. Л., Бояров А. Д., Куценко Е. С. Кластерная политика в России: от теории к практике // Форсайт. 2012. Т. 6. № 3. С. 16-27.
2. Агафонов Н. Т. Территориальная организация общества: состояние и пути обновления: Препр. науч. докл. // Н. Т. Агафонов, М. Н. Межевич, АН СССР, Ин-т соц.-экон. пробл. Л.: ИСЭП, 1990. 47 с.
3. Герасимов В. О., Пуряев А. С. Стратегия развития региона и системы управления человеческим капиталом региона с учетом внедрения системы Форсайт-технологий // Экономические и гуманитарные науки. 2019. № 11. С. 97-107.
4. Глушко Е. А. Дорожные карты в государственном управлении // Право и государство: теория и практика. 2014. № 11 (119). С. 53-59.
5. Голованова С. В., Авдашева С. Б., Кадочников С. М. Межфирменная кооперация: анализ развития кластеров в России // Российский журнал менеджмента. 2010. Т. 8. № 1. С. 41-66.
6. Кластерная политика: достижение глобальной конкурентоспособности / В. Л. Абашкин, С. В. Артемов, Е. А. Исланкина и др. Минэкономразвития России, АО «РВК», Нац. исслед. ун-т «Высшая школа экономики». М.: НИУ ВШЭ, 2017. 324 с.
7. Колосовский Н. Н. Основы экономического районирования. М.: Государственное издательство политической литературы, 1958. 200 с.
8. Куценко Е. Пилотные инновационные территориальные кластеры России: модель устойчивого развития // Форсайт. 2015. Т. 9. №1. С. 32-55.
9. Макаров С. А. Форсайт и долгосрочная стратегия как инструменты развития региона: опыт республики Татарстан // ЭКО. 2020. № 5 (551). С. 175-191.
10. Марков Л. С. Теоретико-методологические основы кластерного подхода. Новосибирск: ИЭОПП СО РАН, 2015. 300 с.
11. Марков Л. С. Экономические кластеры как форма функционирования и развития промышленности региона: на примере кластеров высоких технологий г. Новосибирска. ИЭОПП СО РАН, 2006. 186 с.
12. Новосёлов А. С., Маршалова А. С. Формирование современной системы регионального и муниципального управления // ЭКО. 2019. № 8 (542). С. 83-102.

13. *Пробст А. Е.* Проблемы размещения социалистической промышленности. М.: Экономика, 1982. 215 с.
14. *Санеев Б. Г., Соколов А. Д., Музычук С. Ю.* Методология дорожного картирования в стратегическом планировании развития топливно-энергетического комплекса региона (на примере Иркутской области) // Известия Байкальского государственного университета. Том. 29. № 4. 2019. С. 660–669.
15. *Соколов А. В., Чулок А. А.* Долгосрочный прогноз научно-технического развития России на период до 2030 года // Форсайт. 2012. Т. 6. № 1. С. 12–25.
16. *Хрущев А. Т.* Межотраслевые комплексы промышленности России. М.: Изд-во Моск. ун-та, 1996. 148 с.
17. *Цухан Т. В.* Кластерная теория экономического развития // Теория и практика управления. 2003. № 5. С. 43–51.
18. *Andersson T., Sylvia Schwaag-Serger, Jens Sorvik, Emily Wise Hansson.* The Cluster Policies Whitebook. IKED, 2004. 266 p.
19. *Bergman E. M., Feser E. J.* Industrial and Regional Clusters: Concepts and Comparative Applications. Regional Research Institute, WVU. 1999. 62 p.
20. *Enright M.* Why local clusters are the way to win the game // World Link. 1992. Vol. 5. № 4. P. 24–25.
21. *Enright M. J.* The globalization of competition and the localization of competitive advantage: Policies toward regional clustering // The Globalization of Multinational Enterprise Activity and Economic Development. Hood N. Young S (ed.). Macmillan, London. 2000. P. 303–331.
22. *Enright M. J.* Regional Clusters: What we know and what we should know // Paper prepared for the Kiel Institute International Workshop on Innovation Clusters and Interregional Competition, 2002. P. 99–129.
23. *Ketels C.* Recent Research on Competitiveness and Clusters: What Are the Implications for Regional Policy? // Cambridge Journal of Regions, Economy and Society. 2013. No. 2. P. 269–284.
24. *Ketels C., Lindqvist G., Sölvell Ö.* The Cluster Initiative Greenbook 2.0. Ivory Tower Publishers, Stockholm, 2013. 92 p.
25. *Konstantynova A.* Cluster policy change and evolution: Facilitating regional smart specialisation and economic development // International Journal of Globalisation and Small Business. 2019. Vol. 10 (2). P. 127–142.
26. *Larionova N. I., Yalyalieva T. V., Napolskikh D. L.* Global competitiveness, neoindustrialization and innovative clusters: International indicators and trends of Russian federation // Revista Galega de Economía. 2018. Vol. 27 (2). P. 125–138.
27. *Porter M. E.* On Competition. Harvard Business Review Book. Harvard Business Press, 2008. 544 p.
28. Organization for Economic Cooperation and Development (OECD). Boosting Innovation: The Cluster Approach. Paris: OECD, 1999. 418 p.
29. *Porter M. E.* Competitive advantage, agglomeration economies and regional policy // International Regional Science Review. 19. 1996. P. 85–90.
30. *Sölvell Ö., Lindqvist G., Ketels C.* The Cluster Initiative Greenbook. Bromma tryck AB, Stockholm, 2003. 94 p.
31. *Warwick K., Nolan A.* Evaluation of Industrial Policy: Methodological Issues and Policy Lessons. OECD Science, Technology and Industry Policy Papers. OECD Publishing, Paris, 2014. 86 p.

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