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Development of Economical and Geographical Image of Eastern Siberia as a Subject and an Object of Strategic Investments in Oil and Gas Complex

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ABSTRACT

In modern conditions of long-term reduction of the country's income, and, respectively, searches of financing of regions optimum structuring of regional space, use of historically developed spaces-regions as one of the sources of social and economic development by the way of increase in volumes and soundness of investments is very important. The article represents the East Siberian region as historically developed economical and geographical space and transformation of its image in modern geo-economic conditions. Meridional location of the region united by common Baikal-Angara-Yenisei water system should be taken into account at planning of development of separate economic sectors in its territory for the purpose of achievement of both all-federal purposes and purposes of regional development. The youngest and most dynamic sector in the territory of the region is oil and gas that provides an opportunity for creation of general federal and regional strategy for its further development. It is necessary to use the existing regional system of oil product supply while implementation of federal programs and plans of vertically integrated oil company in oil and gas industry in the territory of the region and to build operating structures not only for the West-East line, but also for the North-South.

Keywords: Regional Economy, Regional Space, East Siberian Oil and Gas Complex, Oil Product Supply

JEL Classifications: O18, R12

1. INTRODUCTION

Structuring of the geographical space, including its component - economic space is the most important stage of transition from raw export economy to the balanced self-sufficient economy of new industrialization and regional development (Jean and Savona, 1997). Location and content of production structures is deeply influenced by a mental image, map of the territory, its position and coordinates (Neklessa, 1997).

That is the structure of oil product supply in the East Siberian region was formed under the influence of its spatial integrity, which is established and historically proved (Tsagareli, 1995). It is the meridional extent and structuring around the Baikal-Angara-Yenisei water system (Miroshnikova, n. d.). In the absence of own oil processing facilities, the oil products were delivered to the territory of the region by rail using the Trans-Siberian Railway. A basis of the oil product supply system in the

beginning of 20th century was a construction of warehouses for oil and oil products in the main zone. In August, 1900 "Nobel brothers oil production partnership" organized the first such warehouse in the city of Achinsk near the railway station. Similar warehouse was organized in Krasnoyarsk also near the railway station. Main warehouse and headquarters of the partnership in Eastern Siberia were located in Irkutsk (Feldman et al., 2016a). Under the conditions of World War I the government of Russia reconsidered the economic activity management structure in the country. By the end of 1914 the first Governmental body for regulation of procurement and delivery of fuel-OSOTOP (special fuel committee) was created. It got such name in August, 1915 after numerous reorganizations (Mastobayev et al., 2006). The special committee created a policy for development of the system of oil product supply for the territories and obtained the right of distribution of orders, establishment of marginal prices and carrying out of requisitions. At first the Soviet system kept the existing state control mode, but under the conditions of the

beginning of the civil war and worsening economic breakdown the Council of People's Commissars (CPC) in 1918 issued decree about nationalization of the oil industry (History of USSR, 1967). For the purpose of management of the industry CPC founded the main oil committee (Glavkoneft) as a part of the Supreme Soviet of the National Economy with which district oil committees were founded. In the days of the new economic policy an establishment engaged in sale of oil and oil products was Neftetorg founded in January, 1922 and further transformed into Neftesindikat. After transition of national economy to the planned one Neftesindikat in 1928 was dissolved and all petroleum depots were transferred to the All-union association Soyuzneft which became a basis for Glavneftesbyt (Torochkov et al., 1978). In the territory of Eastern Siberia the West Siberian department of Soyuzneftesbyt and the East Siberian department with headquarters in Irkutsk were the establishments which dealt with oil product supply (Feldman, 2015). Old petroleum depots were recreated and new petroleum depots were built along the Trans-Siberian long distance railway. In 1928 the Kanskaya and Uzhurskaya oil depots were formed, in 1929 Zaozyornovskaya and Uyarskaya oil depots were created. In December, 1929 Zlobinskaya (Krasnoyarskaya) oil depot was founded (Feldman et al., 2016). The new stage of development of oil product supply of Eastern Siberia started in December, 1934 when Krasnoyarsk region was formed. There was an expansion of oil-product network of the region. Particular attention was paid to riverside distribution tank farms for the purpose of maximum use of Yenisei river system and its inflows. In March, 1936 in the village of Kuragino an oil depot was created. Oil products were supplied using the river Tuba. In June, 1936 the Minusinsk oil depot was founded. At first oil products were delivered by river transport, later also by rail transport. In October, 1939 in the far northern part of Krasnoyarsk District Igarskaya oil depot was founded ("Krasnoyarsknefteprodukt" PJSC, 2004). Thus, the Zlobinskaya (Krasnoyarskaya) transshipment water-railway oil depot was supplemented with a network of water-distribution and deep oil depots according to the meridional arrangement along the North-South axis, with an opportunity to reach the Northern Sea Route (NSR) and intraregional development which was guided by all-federal projects for the East-West line. In parallel with development of oil product supply system, other components of the oil and gas complex (OGC) were also developed. In 1930s the works aimed at search for hydrocarbon raw materials in the southern areas of Krasnoyarsk District were started. In the second half of 20th century these works were transferred to the northern areas. It is interesting that the first field of industrial production of natural gas was made exclusively to cover internal needs of the region, namely the Taimyr Peninsula and the Norilsk industrial district (Chernysh et al., 2000). Along with an intensification of works aimed at search for hydrocarbon raw materials there was a development of petrochemical and oil processing component of the oil and gas company. In 1957 in the city of Krasnoyarsk the synthetic rubber production plant was put into operation. Even earlier in the Neighbouring Irkutsk region in 1949 the Angarsk petrochemical plant was commissioned (later - PA Angarsknefteorgsintez). In 1956 it commissioned first primary distillation system. By the early 1990s the association consisted of 12 plants with oil refining efficiency of 72.73% (1989) and actually set fresh feed rate of 23,056 million tons/year (Melnikova

et al., 1997). In 1972 near the city of Achinsk construction of the Achinsk refinery started. In October 1983 it became one of currently operating plants of Minneftekhimprom of the USSR. Design fresh feed rate of the first stage was 6.9 million tons per year. With an opportunity of commissioning of the second stage and increase in design capacity up to 12 million tons of raw materials per year (Chernysh, 2006). In 1979 the resolution # 265 "On Measures for Intensification of Oil and Gas Exploration Works in Eastern Siberia" was adopted by the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSR. In compliance with it in August, 1979 SPA "Yeniseigefizika" was organized; it included all geophysical expeditions in the territory of Krasnoyarsk Region.

The purpose of the new union was investigation of deep geological structure of the territory of Krasnoyarsk Region, division of the territory into districts in view of prospects of oil-and-gas content, carrying out regional prospecting works with the purpose of identification and preparation for deep drilling of oil and gas potential structures. By 1985 58 objects with the total prospective area of 9,400 sq. km were prepared. Opening in the late 1980s of the Vankorskoye field and the Yurubcheno-Tokhomskoye oil-and-gas area was a result of these works. Since 1970s and until the end of 1980s the system of oil product supply reached the peak of its development. The state establishment "Krasnoyarsknefteprodukt" was carrying on the business in the territory of Krasnoyarsk region (including the Khakass Autonomous Region, the Evenki and Taimyr Autonomous Areas) and the Republics of Tuva, it was operating 38 petroleum storage depots and 250 gas stations (Feldman et al., 2016b). Commissioning of the 1st and 2nd stages of the Yenisei (Abalakovskaya) transshipment water-railway petroleum storage depot intended for satisfaction of requirements for oil products needs of the Norilsk industrial district was very important. Feasibility reports for construction of trunk oil pipelines from the Achinsk refinery under construction in three directions were made:

1. To the Yenisei oil depot;
2. To the Minusinsk oil depot and further to Kyzyl (Republic of Tuva);
3. Kansk-Taishet (Irkutsk region) (Feldman and Podolyanets, 2016).

Thus by the beginning of 1990s the East Siberian OGC was created.

2. METHODS

The OGC is considered as a component developing in time and space of the East Siberian region. Its historical and social and economic component is supplemented with the geographical and geopolitical (geoeconomic) characteristic (meridional extent and structuring around the Baykalo-angaro-eniseyskoy water system). During the work on article methods of theoretical generalization and forecasting, the logical analysis, comparative-historical generalizations are used. The attention to researches in the field of economy, geoeconomy, geopolitics, geography, history, regional economy is paid. As initial information acts, program documents and decisions on development of oil branch of the government of the Russian Federation, General Court and administration of Krasnoyarsk Krai, data of social and

economic statistics (Goskomstat, management of statistics on Krasnoyarsk Krai), materials of scientific conferences are attracted.

3. RESULTS

At the moment, contrary to logic of spatial development of the region the prevailing direction of creation of the production structures is West-East or East-West. So, the commercial operation of the Vankorskoye field which was started in 2009 was supported by construction of Vankor-Purpa oil pipeline (Figure 1) to the main pipe of transneft with its further pumping to the East: To China and Nakhodka.

The following options for using the regional infrastructure were rejected.

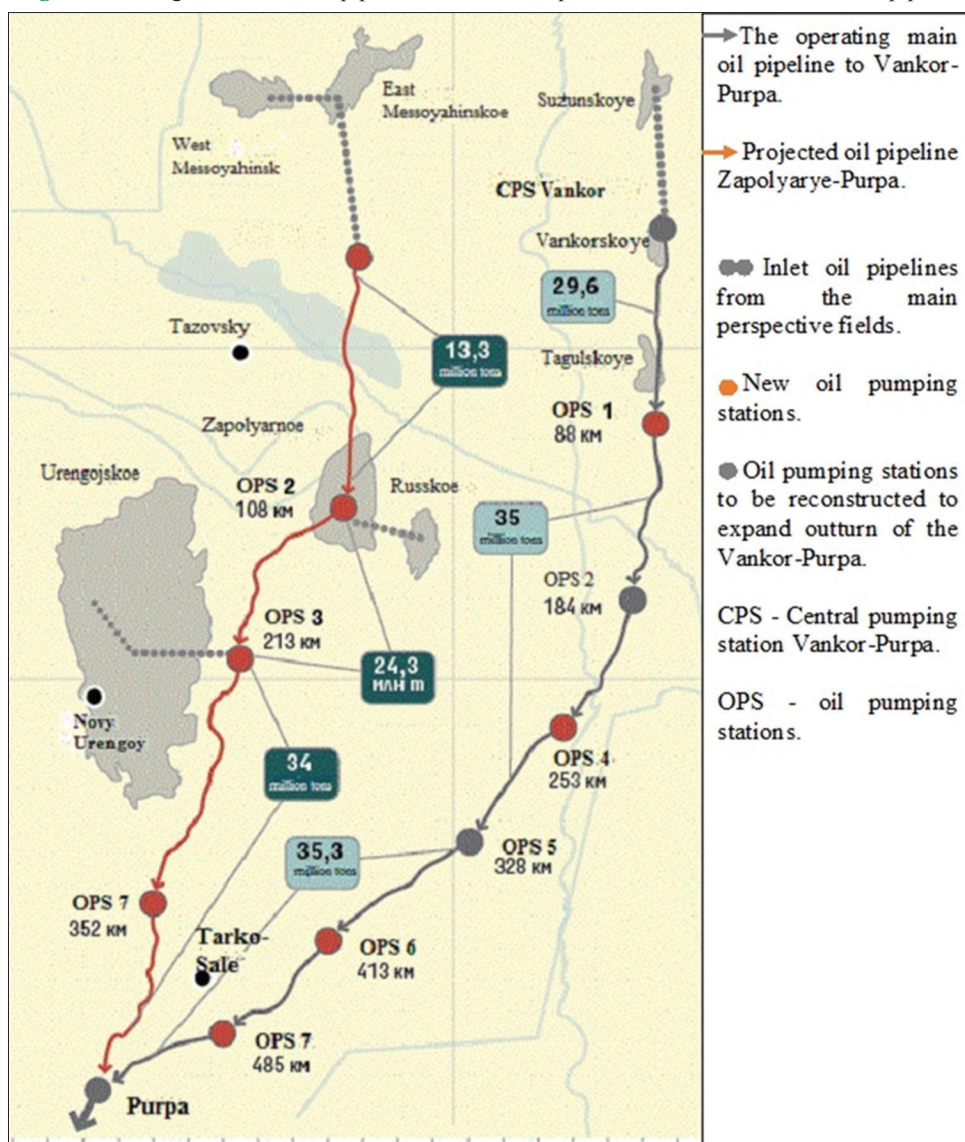
1. By way of oil pipeline construction in the direction of the port of Igarka with further use and development of Igarka, Dudinka and Dickson ports for oil transportation by the NSR Further, using the network of northern oil depots, it would be possible to expand transportation of oil products also through

the NSR for supply of the Arctic regions (Khatanga, etc.) and for export (Feldman et al., 1997).

2. By way of construction of the oil pipeline to the Achinsk refinery. With partial processing of the extracted oil and transfer of oil products at the Yenisei oil depot by the NSR.

Further development of the OGC of Krasnoyarsk region is planned as development of the Yurubcheno-Takhomsky oil and gas accumulating area with construction of the oil pipeline Kuyumba-Taishet with further direction to China and Nakhodka port. Thus being technologically and logistically developed fields belong to the West Siberian OGC and the Far East export oil and gas logistic direction being created (export of crude oil, oil processing and petro chemistry). What we have now is creation of production structures of the OGC of the East Siberian region being formed just along the West-East and the East-West lines with obvious export orientation for the raw materials (in this case - crude oil). Accordingly the main activities in the territory of the region are carried out by the companies with transnational business activities, interests and sources of financing. They receive financial resources

Figure 1: Arrangement of the oil pipeline to Vankor-Purpa and main users of this main oil pipeline



at the global markets from transnational financial institutions and develop oil and gas infrastructure in line with interests (logic) of the global market. According to this logic involvement of regional infrastructure, construction of advanced refining complexes is an additional cost, decrease in capitalization of the companies, increase in loan debt for the projects which main objective is exportation of raw materials with the minimum costs. As a result the effect for the regional industry and the budget in principle can't be significant as a matter of fact it is minimal. At the moment there are no finished projects aimed at oil refining in Krasnoyarsk Region except for the Achinsk refinery which was commissioned in 1983. And as early as the Soviet period the petrochemical complex was started to be created in the Region for future oil and gas projects (Vankorskoye and other fields were commissioned in the soviet period), but it was ruined in 1990s. Supplies of material resources from the East Siberian fields are generally integrated into the latitudinal schemes of supplies from the Yamal Peninsula where the production projects of the region's vertically integrated oil companies are located. That is, according to the program of complex development of the fields of YaNAO and the North of Krasnoyarsk Region till 2020 the Vankorskaya group of fields will have the common with Yamal transport network, common power supply system (Urengoy regional power station, etc.) and common social infrastructure. As for development of processing industry of Krasnoyarsk Region, oil and gas projects generally didn't exert their influence on its development both in respect of increase in output and in respect of upgrade. During the period of development of the Vankorskoye field the purchasing amount for material resources by "Vankorneft" in 2010-2012 made 120-140 billion rubles a year. At the same time the orders for the entities of the region made 7-14 billion rubles a year, i. e., no more than 6-10% of all purchases of the company (Kryukov et al., 2013). Generally the development of the fields is made using foreign equipment (Bukharova and Samusenko, 2016). The reason for that is that domestic equipment can't provide the necessary level of efficiency.

The multi-national federal companies build in the region its own wholesale and retail oil product business (Khantemirov, 2016). The final purpose is complete dominance at the regional market with replacement of local players and reformatting of the regional system of oil product supply (part of it is reallocated to them, and the rest is liquidated). This newly created oil product supply system as a part of the federal companies will be servicing as their core business at the West-East line for the purpose of minimization of costs and maximization of profit. Within this model the calls to increase participation of the regional entities in oil and gas projects will not help, because it is in conflict with the logic of the developing above described system. The offers to expand the list of project participants, investors by domestic vertically integrated oil companies also will not help. All the offered measures for support of development of Eastern Siberia, in general, and particularly Krasnoyarsk region, are provided in accordance with this model. Therefore it is necessary to develop the North-South and South-North model not instead but in parallel. Its main provisions are as follows.

To use creatively the previous experience of the projects providing economical, geographical and geopolitical integrity of the

territories of Russia. Certainly, it is the project of OGC and its major component - Oil product supply system of the East Siberian region. It will help to provide long term growing region economy with inexpensive fuel, creating rational transport and logistics routes of supply. It is necessary to return to plans of construction of oil pipelines in the East Siberian region. The project of Achinsk-Minusinsk-Kyzyl refinery in case of its implementation can be continued in the direction of Mongolia for supply of low-cost oil products, supporting joint Russian-Mongolian projects in other fields of economy. Thus, this country, which is so important for the East Siberian region, will be integrated in the North-South line towards Russia (Mutovin and Feldman, 2016). Achinsk-Yeniseisk (Abalakovo) refinery will help to organize regular and inexpensive supply of oil products for Northern and Arctic districts of the Region and will contribute to activation of the NSR. In case of implementation of the Achinsk-Kansk-Taishet (Irkutsk region) refinery the Western, Central and Eastern parts of Krasnoyarsk Region will qualitatively improve their oil products supply. The large urban center Krasnoyarsk will receive an optimum transport scheme for their delivery, including removal of the Krasnoyarsk (Zlobinskaya) petroleum storage depot out of the city (the problem is still exist) (16). It is necessary to create the regional logistic (wholesale and retail) center based on the large enterprise of the oil product supply system which is owned by the region (today it is "Krasnoyarsknefteprodukt" Public Joint Stock Company) with inclusion of group of transshipment and distribution petroleum storage depots in this center (Feldman et al., 2016).

Important question for implementation of projects are sources of its financing which owing to features of the Russian structure of management and property are difficult to access. Nevertheless, it is possible to offer the following options based on the Soviet and Russian projects, successful foreign experience and current Russian and world trends.

1. Experience of Norway and Brazil. By 60th years of the 20th century Norway had no oil and gas industry at all. By 70th years the plan for its creation was developed. In its basis - active participation of the state. Requirements to use of local goods and services at implementation of projects on oil extraction were legislatively defined. In general during the period from the middle of the 70th to the middle of the 90th years of the 20th century the share of the Norwegian goods and services reached 90% of all deliveries. In 1972 the government structures connected with oil production were reorganized into the Norwegian Oil management which created the Statoil company - The national oil company, the conductor of commercial interests of the state. For influence on deliveries of goods and services in 1972 in the Ministry of the industry the department controlling activity of the oil companies in the sphere of contracts and deliveries was created (Noreng, 2004). Now annual volumes of services grow in oil and gas sector of Norway by 4 times quicker, than oil and gas extraction. Similar approach is applied in Brazil - the government established the requirement according to which from 40 to 85% of operational costs of the companies of oil and gas business have to be the share of local suppliers of goods and services.
2. From the second half of the 90th years of the 20th century within state programs and in circles of expert community

the latitudinal models of development of the country were developed. It was intended to direct international trade and transport flows through the territory, air and sea space of the Russian Federation. Originally from the West to the East. The task was to integrate into the international system of latitudinal transport corridors with the following projects:

- NSR
- The Trans-Siberian and Baikal-Amur railway lines with branches to Japan (with construction of the bridge through the island of Sakhalin), China and Korea.

However, these plans initially came up against the opposition of the EU, which began to promote its projects, the main one being the TRACECA corridor, the main intention of which was the revival of the Great Silk Road from Europe to China. With the help of this corridor it was planned to send European cargoes from the ports of Bulgaria, Romania and Ukraine by ferries through the Black Sea to the Caucasus, then by rail and road to Baku, then by ferry across the Caspian to Turkmenistan and by rail to China. Although the time in transit, taking into account the time of transshipment in the Black and Caspian Seas, was 2 times more than through the Trans-Siberian Railway, the project continued to be implemented. He changed direction from East to West and is now known as the Great Silk Road. The reason is that China became the main source of the commodity mass for transportation instead of Europe. Since the main stream only affects Russia to a small extent, the development of Russian regions will not be carried out, moreover, the financial, infrastructure, human, technological resources will be "attracted" to the route, distracting them from the Russian regions. Therefore, the compensatory mechanism "North-South" is needed.

1. An extremely expensive annual event for Russia is the northern delivery, most of which is fuel. At the same time, the price for transportation of fuel is 1.5 - 2.5 times higher than its cost, according to former head of the presidential administration S. Ivanov. On average, the northern delivery assumes an annual delivery of 7 million tons of liquid petroleum products and 23 million tons of coal. Financing of the northern delivery, transferred from the federal budget to the regional level, despite the fact that the debts of the regions in the RF reached 2.4 trillion. rub., Becomes extremely difficult. The development of the transport and fuel system in the East Siberian region will significantly reduce the cost of the northern delivery, reduce the prime cost of most types of products produced in the Siberian-Far Eastern regions and regions of the Far North. In the future, we can assume the consolidation of the population in these territories.
2. Out of direct financial resources, it is possible to propose the use of the mechanism of public-private partnership at the regional level in combination with the production sharing agreement, with the receipt of funds allocated by the federal budget for import substitution purposes in these regions. The funds allocated in accordance with the strategy of social and economic development of Russia to 2020 and up to 2030 can also be used.

4. DISCUSSION

The image of the East Siberian region, proposed in our article, is subject to the impact of alternative projects. One

group of authors includes Kuznetsov et al., who in the article "Spatial opportunities and limitations of the modernization of the Russian economy: An example of the north-western macroregion" outlines the results of the study of the role of space in modernizing the economy of this region. They pose the problem in such a way that a special interdisciplinary scientific methodology is needed - the geospatial paradigm. In our opinion, today there was a need for this methodology, when an important component is socio-economic development. In this paradigm, geographic and economic factors have an impact on geospace. The concept of space is connected with the concept of region. But they consider the socio-economic space through the prism of classical economic theory. We propose to optimize the old image of economic geography and fit it into the existing market conditions.

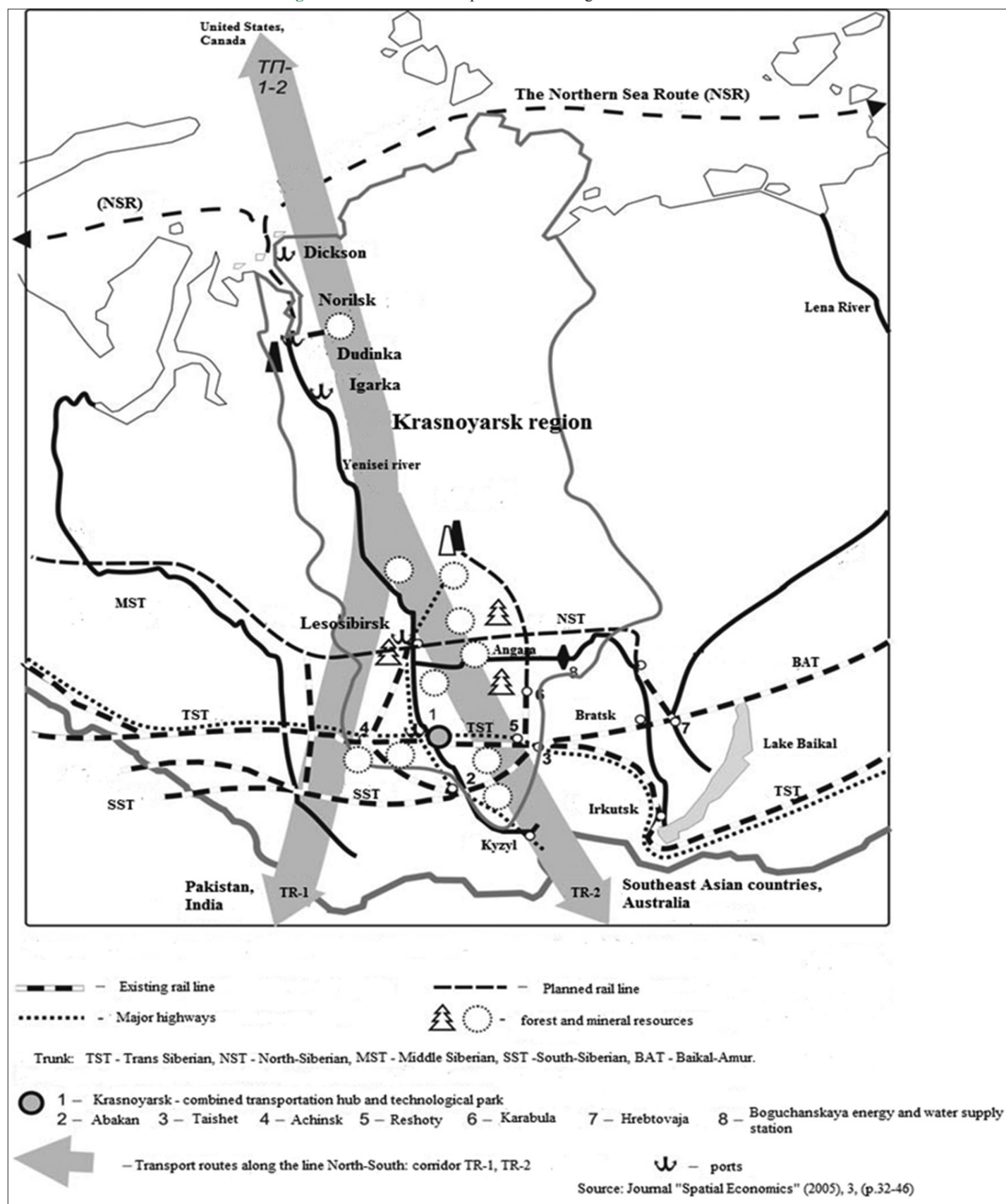
Another group of authors includes works in which the concept of the region is explored. So, Tatarkin in the article: "Social and economic status of the middle region of Russia", introduced the notion of the middle region on the basis of a geographical criterion and on its basis, conducts economic and mathematical modeling. V. Yu. Burov in the report at the 2nd International scientific conference "Siberian bridgehead 17-18.02.2016 year" operated the concept "Baikal subregion" in the composition of Buryatia, Irkutsk region and Transbaikalian region. In his opinion, this region should strive for integration with the Far Eastern District and with China. K.S Chumlyakov in the article "Infrastructural security of the raw macro-region of the Russian Federation" (Journal of problems of economics and management of the OGC, No. 6, 2015) analyzes the inland situation of the West Siberian macro region of the Russian Federation. It includes the republic of Khakassia and the western districts of the Krasnoyarsk territory. This territory, which is characterized by a high concentration of fuel, energy, mineral resources and other resources, should be actively involved in the organization of commodity exchange through the formation of a transcontinental logistics infrastructure for the export of raw materials. These authors justify the blurring of the East-Siberian region along the West-East line for transit and raw infrastructure projects. And we consider the region through the historical-geographic-geopolitical aspect and on this basis we determine the region. We offer a basic, historically developed image. The concept image is a category that is considered to be largely geopolitical, "The security of modern Russia is a matter of timely modeling of targeted geographic images." ("Foreign Policy and Security of Contemporary Russia": A chrestomathy in 2 volumes). Geo-economics extends the use of geographic images, as it operates with financial and economic flows and virtual spaces. The construction of geographical images becomes an urgent task of the present day. In our opinion, it is necessary to actualize the space in the economic sense, to make it one of the sources of economic development.

This study also raises issues of prospective generation of financial revenues. In the opinion of the authors, at the first stage of implementation the costs for the northern delivery will be reduced, and the constant risks of fuel crises in these regions are reduced. The task of the second stage will be the justification of

the organizational, economic and territorial-regional development of the production of oil products of various types for the domestic

and foreign markets. The results of the second stage research will be presented in the next article.

Figure 2: Direction of transport arteries along the line North-South



5. CONCLUSION

Today the production, economic, transport and logistic interactions created over the past decades and being created along the West-East and East-West line not only support exportation of the raw materials from the country, but also create around them import-dependent technological infrastructure (Krasnoyarsk Region in Figures, 2015). All this promotes dissolution, shrinking and disappearance of the image of Eastern Siberia as a complete region having economical, geographical and geopolitical tradition and a sense of existence. We see a creation of a new economical and spatial image for the benefit of the foreign states and powerful multinational corporations which are based on their territory. It is necessary not just to declare "import substitution" tasks, but to advance, design the corresponding images of the territory of Eastern Siberia which will create objective needs and will become a basis for development and production for the processing industry. In general, the key transport corridor of Russia along the West-East line passing through the territory of Eastern Siberia has to be added with a key regional transport corridor along the North-South line (Figure 2).

It will intensify the dynamics of regional development and will help to start implementation of the only correct internal shift of the country in modern conditions to the East and not to Far East for the purpose of supporting China, but to the East Siberian region, equidistant both from Europe and the European part of Russia and from big China and the Asia-Pacific Region in general. The transport routes passing from the West to the East and from the East to the West will provide additional dynamics to internal development of the Baikal-Angara-Yenisei region along the North-South line with connection to the international markets by the NSR.

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