

参考 シャドリナ論文 (平成16年2月脱稿)

Is Pacific oil pipeline to breathe new life into the Far Eastern economy?

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Since the year 2002 and especially due to increasing volatilities in the Middle East, oil has become an even stronger geopolitical playing card for Russia than ever before. Though this precious black gold - oil is synonymous with the Middle East, it is without doubt a symbol of opulence and prosperity for its possessors, but at the same time a source of constant anxiety and concern for those who lack it.

Japan, which imports all its oil, has embarked on an intensive search for new sources outside the Middle East from where it gets well over 80 % of its supply. In 2002 Japan imported Russian oil in tiny quantities amounting to less than 1 % of the total volume of Japan's oil imports. However, the fact that Russia exported oil to Japan for the first time since 1978 is worth of attention.

In the same regard, diversification of oil imports has become a fairly new mantra for China that became a net importer of oil since 1993 and has recently surpassed Japan to become the second largest oil-importing nation in the world. At the moment, China, the largest energy consumer in Asia is dependent on the Middle Eastern oil for over 50 % of its consumption. In addition, prospects of swift economic growth, leaves the country grappling with how to forge its energy security that will inevitably contribute to the energy supply uncertainty of the entire region.

The intrigue of the current situation is in the mounting competition between Northeast Asian (NEA) nations for precious energy resources. While searching for diverse sources that will fuel their economic growth, countries of the NEA region unfortunately don't have much array of options at their disposal. Many while trying to diversify their sources of energy eye Russian oil in particular. If

¹ Pacific, Trans-Siberian, Trans-Baikal, as well as others are all names given to the oil pipeline that originates from East Siberian city of Angarsk, Russia, which is bound for Asian markets or beyond. This works will refer to it as the Pacific oil pipeline.

Japanese energy companies have already been operating in Russian Sakhalin, China, likewise while keeping in mind the dispersing of risks to its energy security, is also seeking Russian energy. Consequently, it may be a good omen for Russia through East Siberia and the Far East as the possessors of these desired riches to set about for comprehensive cooperation with Northeast Asian powers in order to actualize the idea of the regional integration and take it a step closer to reality.

Indeed, the fact that many of the Asian countries are in dire need of acquiring additional oil sources, which is critically important to their economic well being is a premise for Russia's policy in the region. On the one hand, this prospect gives Russia a unique opportunity to regain its status in the region and on the other allows it to develop and pursue a sound strategy for multilateral cooperation with other NEA powers, first and foremost with Japan and the People's Republic of China (China).

What might look surprising in this particular case with the oil pipeline is the fact that Russia not only needs to develop a line of behavior towards the Asian states, but also a strategy towards its own region/s. Geographically named the Far East and Siberia, economically they may be even identified as remote destinations. This is not for a lack of plans and strategies on Eastern territories' economic development.² Nevertheless, the reality is that in comparison with the rest of Russia, eastern regions are still virtual undeveloped. Therefore, in light of the possibilities and opportunities to be involved in such large scale international cooperation, it is very important for the Russian government to assess all the pros and cons of this given oil pipeline project as well as make full use of its advantages for the sake of Siberia's and the Far East's prosperous development.

This particular work is an attempt to evaluate the possible impacts of the Pacific oil pipeline project on the economies of Russia's eastern territories. Given that the project is still under consideration, the character of the possible outcome is to a great extent probable rather than verified.

General characteristics of the Pacific pipeline

It is not an overstatement or exaggeration to say that the Pacific pipeline has won a steady stream of converts as well as the attention of all the nations in Northeast Asia's vicinity. Increasingly, it is becoming a hotly discussed and speculated upon topic in scientific, official and business circles. This pipeline project will directly affect three out of the six powers of NEA, namely Russia, Japan and China. However it will all depend upon what route is finally chosen, the successful implementation of the project and likewise, postponement or cancellation will have effects on the entire NEA and perhaps even beyond.

² For the time being, six governmental programs on the Far East's and Trans-Baikal regions' economic development had been initiated. Only one of them, of the year 1930, was accomplished by 130 %, all the other hardly attained 80 % to 30 % success. The notorious Presidential program of 1996 (to 2005) was executed only by 10 %. Under such circumstances, the latter was revised in 2002. Currently the region is developing under the Federal Program to 2010.

To give a more complete overview and facilitate a better understanding of the topic at hand, a brief general description of the characteristics and the nature of this pipeline projects is essential.

Although there are limited detailed writings and only brief press releases available on this topic (written in both Russian and English) it is still possible to draw some conclusions that nowadays several versions of the pipeline project are under consideration.

The oil pipeline construction project from the Russian Siberian city of Angarsk to China (in short, Angarsk-Daqin oil pipeline) can be credited with being the pioneer idea. Presently this project is the most advanced from the perspective of already completed design and conducted feasibility study, signed agreements and justified resources. The other project, which rests in Russia's direct interest, is the oil pipeline connecting Angarsk and the city of Nakhodka on the Russian coast of the Sea of Japan (Angarsk-Nakhodka pipeline, or Pacific pipeline). Development of the Pacific pipeline project has been without doubt accelerated by the Angarsk-Daqin pipeline project's progress. Since its initiation, this Pacific project has resulted in a number of designs of possible routes (up-to-date, nine variants have been investigated). The most recent version and in fact the most attractive of these Russian initiatives combines the two projects mentioned above. This is generally known as the Angarsk - Nakhodka pipeline that branches into Daqin. Because this recently proposed idea does not exclude the possibility of a parallel gas pipeline, this project might encourage activity of tremendous scale in the energy sector of NEA in the future.

Figure 1. Two alternative routes of the oil pipeline from the city of Angarsk, East Siberia



Source: <<http://www.aton.ru>>

The following table provides the results of a comparative survey and a general overview of the projects and some of the key technical and economical characteristics (refer to table 1).

Table 1 Oil pipelines originating from the Russian Eastern Siberia city of Angarsk and targeting the Northeast Asian countries

Criteria for comparison	Angarsk – Daqin (northern and southern routes)	Angarsk – Nakhodka	Angarsk – Nakhodka with a branch into Daqin (northern via Skovorodino and southern via Karymsky routes)
Targeting and backing			
Ultimate consumer	one consumer in the center of the continent – People's Republic of China	Japan as the major consumer, however access to seaport allows tanker-based shipping to other Asian nations (Republic of Korea, Taiwan, etc.)	China designated as recipient of the first oil, while Japan and other Asian nations will be supplied with oil at a later stage
Project's developer	the largest Russian oil company YUKOS (more details are presented in the Appendix)	Transneft the largest oil transporting company (for more information refer to Appendix)	support of the Russian government
Technical parameters			
Length, km	2213* - 2400 (southern route - 2247 km, including 795 km through Chinese territory, northern route -2967 km, including 920 km through China's territory)	3765 ³ - 3884.8 ⁴ (to Perevoznaya Bay, the latest and most probable final destination in Russian territory)	4700 (including 920 km on China's territory)
Carrying capacity	20 mln t/ year (or 0.4 mln bbl/d) from 2005 30 mln t/ year (or 0.6 mln bbl/d) from 2010	30 mln t/ year (or 0.6 mln bbl/d) from 2008 50 mln t/ year (or 1 mln bbl/d) from 2010 (2015 – 2020) for export, 10 mln t/ year is required for domestic demand	80 mln t/ year for export, 10 mln t/ year is required for domestic demand
Adequacy of reserves	YUKOS's fields guarantee 18 mln t/ year; other companies' fields	30 mln t/ year maybe guaranteed, exploration of new fields needed	30 mln t/ year (60% of capacity) maybe guaranteed, exploration of new fields needed
Number of pumping stations	13	26 ⁵	
Volume of the reservoir, thousand cubic meters		4080 ⁶	
Timing			

³ Pipeline for transfer of the Russian oil to the Pacific region// <<http://www.transneft.ru>> (accessed on Oct. 31 2003)

⁴ Japan to help finance construction of Angarsk-Nakhodka oil pipeline// <<http://www.rosbaltnews.com>> (accessed on Oct. 31, 2003)

⁵ Pipeline for transfer of the Russian oil to the Pacific region// <<http://www.transneft.ru>> (accessed on Oct. 31, 2003)

⁶ Pipeline for transfer of the Russian oil to the Pacific region// <<http://www.transneft.ru>> (accessed on Oct. 31, 2003)

Commencement of construction	2003 2004**	2004-2005 2004**	2005
Commencement of exploitation	2005 2006**	2008 ** *** – 2010	2008** *** - 2010 - 2018 (Khristenko's estimation)
Financing			
Investment required for project completion, bln \$	1.7 (China's estimations) – 2*** – 2.2 - 2.5 - 2.9 (southern route) 3.5 (northern route)	3.6 – 5 – 5.2*** - 5.9	5.8*** - 6.5
Ultimate country-consumer's readiness to co-finance the project	China National Petroleum Corporation earmarked 0.7 bln \$ to invest ⁷ Yukos is ready to invest 1,8 bln \$	Japan is ready to provide 13.5 bln \$ in direct investments and credits and loans on favorable terms ⁸	alternatives are being discussed (joint financing by private and state companies: Gasprom, Rosneft, Transneft, regional and federal funding)
Returns to the Russian budget, bln \$, Including local budgets		150 60	
Discounted return on the Russian consolidated budget, bln \$	0.336	0.905	
Payback period, years	14.7	15.7	
Credit payout period, years	12	11.1	
Transportation tariff, \$/ t	15 (as far as Daqin)	17.4 ** (as far as Perevoznaya Bay)	

Note: * 1452 km through the Russian Federation's territory, 761 km – through the territory of the People's Republic of China <http://www.gasforum.ru/concept/isdei_0203.shtml>

** Ob osnovnyh napravleniyah razvitiya neftegazovogo kompleksa Vostochnoi Sibiri i Daljnego Vostoka s ucheotom realizatsii perspektivnyh mejdunarodnyh proektov. s. 6// <http://www.gasforum.ru/concept/me_atr_0303.shtml>

*** Transneft's estimates

As can be noted from the table compiled from Russian and foreign sources, there are apparent discrepancies in the findings on the Angarsk - Daqin (AD) and Angarsk – Nakhodka (AN) pipeline projects. This shows that the projects are still under scrutiny and final binding decisions have not been made thus far.

Project initiators although continue to lobby hard, backed by ongoing thorough studies in order to pursued decision-making authorities about the feasibility of their ideas. It should be observed, that results of those investigations are going on as well as a chorus of other examinations conducted by specialized research institutes and NGO, which lately have become involved in this matter.

⁷ Japan to invest in Angarsk-Nakhodka oil pipeline// <<http://www.gasandoil.com>> (accessed on Oct. 31, 2003)

⁸ Aleksandrov Y. Yaponiya nanosit otvetnyi udar// Priamurskie vedomosti. Sept. 5, 2003; Tarasov A. Delo- truba. Oct. 14, 2003// <<http://www.russ.ru/politics/agenda>> (accessed on Nov. 5, 2003); Japan offers Russia\$ 7 billion in loans for pipeline// <<http://russia.shaps.hawaii.edu>> (accessed on Oct. 13, 2003).

It should be noted that when considering this Pacific pipeline issue it is impossible to disengage this project from others. To a varying degree, the Pacific pipeline is correlated (as rival or in concert) with each of the following:

- Angarsk – Daqin pipeline in its southern route;
- Angarsk – Daqin pipeline in its northern route;
- Angarsk - Nakhodka pipeline branching into Daqin;
- Angarsk – Nakhodka oil pipeline branching into Daqin alongside a parallel high-capacity gas pipeline (about 30 Bcm) connected with the gas pipeline network of Western Siberia.

It can be observed that the last three projects might be viewed in relation to the Pacific pipeline, therefore the rest of this works devoted to the Pacific pipeline in its Angarsk – Nakhodka route will when deemed necessary touch upon the project that branches into Daqin that the design overlaps with.

While making decision, issues under consideration

Making use of the newly coined media terminology on the oil pipeline matter at hand, Russia is supposed to decide between two options christened as the “*strategically correct*” (generally meaning choosing of China) and the “*economically sound*” (commonly perceived as leaning toward Japan). Once again, these two options might be divided into arrays of economical, political, geopolitical issues of rather high complicity.

Projects` coexistence or rivalry, which seems to be more agreeable to reality, has only been begun a short time ago. Evidently, the Angarsk – Daqin project has a rather long history that dates back to 1994. It coincided with the attuning of bilateral relations between Russia and China in light of the post-Cold War world order and to counter and leverage the order increasingly run by the United States. In addition by this token, it was a sound proposal for reviving beneficial economic cooperation.

The project targeted China as proven by including it in the “Energy Strategy to 2010” and the program for “Economic and social development of the Far East and Trans-Baikal regions in the years 1996-2005”, enacted in 1995 and 1996 respectively.

For the duration of the almost decade long feasibility study of this project, post-Soviet Russia, essentially thanks to its growing oil exports, has considerably recovered from the elongated economic breakdown, meanwhile China reversed its status from an oil-exporting country to a net importer. Under this circumstance the opportunity for Yukos, a Russian private oil company, to expand overseas surfaced. So since 1998 this took the form of negotiating with China’s state-owned company China National Petroleum Corporation (CNPC) over the oil pipeline from Eastern Siberia. This initiative gradually gained shape as a tangible project and in September 2001, Chinese and Russian governments’

representatives, CNPC, Yukos and the Russian major pipeline operator state-owned company Transneft, signed the principal agreement.

However, during the Kremlin's Security Council meeting in November 2002 the decision to postpone the pipeline to China and evaluate in detail the options was discussed. According to some sources, President Putin called for scrutiny of the entire proposal of the pipeline infrastructure proposed for eastern Russia. This was as a direct consequence of the strong support that regional leaders voiced for the Pacific pipeline option, which they favor from the standpoint of its positive impact on their local economics.⁹

The idea of constructing the pipeline connecting Angarsk and Nakhodka for a long time has not been brought into the open. Apparently, the initial link of the chain of events related to the Pacific project is the Presidential Order # Pr-1315, dated July 17, 2001, authorized Transneft to prepare a pre-feasibility study report. Through that Transneft presented costs and capacity estimations for both AN and AD projects, oil for both of which would originate from Western Siberia, Krasnoyarsky Krai, and Irkutskaya oblast. Several other routing options for the Pacific pipeline were also said to be under review, with Angarsk – Kimel'tey – Nikolskoe – Tynda – Skovorodino – Khabarovsk - Nakhodka (Perevoznaya Bay) route involving the BAM (Baikal-Amur Railway) and the TSR (Trans-Siberian Railway) infrastructure corridors seeming to be the most noteworthy supposedly based on several relevant considerations.¹⁰

In January 2002, the Russian Ministry for Economic Development and Trade approved the proposal and organized a presentation about the Angarsk-Nakhodka project, with the participation of the Energy Ministry and oil companies. Transneft submitted a study on environmental impacts of the project.

Allegedly, by April 2002, Transneft's representatives and the government of Primorsky krai signed an agreement regarding the company's intention to build a pipeline to Nakhodka. Later similar agreements were also signed with the other involved provinces.

As rumor has it, the first contact between Russian and Japanese officials on this particular oil pipeline matter occurred in May 2002. That was during the meeting of the Minister of Energy Yusufov and Minister of METI Hiranuma while at the Energy Summit in Houston, USA. At that time, it was decided to conduct thorough feasibility studies before setting about on deliberations on the project.

In June 2002, the project was presented at the APEC Investment Forum in Vladivostok and later during September at the Baikal Economic Forum held in Irkutsk.

For many outside observers it was a surprise when in January 2003 Japan, which had kept showing its cold shoulder towards this Siberian project, stepped

⁹ Marshrut krupneishego truboprovoda Vostochnoi Sibiri mojet byt izmenyon. Izvestia. On-line. 09.12.2002// <<http://www.izvestia.ru>> (accessed on Oct. 30, 2003)

¹⁰ Ivanov V. Russian Oil for Northeast Asia: Opportunities, Problems and Policies // <<http://www.rusrev.org>> (accessed on Nov., 17, 2003)

in the battlefield for Russian oil. During his visit to Moscow Premier Junichiro Koizumi voiced Japan's interest to take part in this large-scale energy project. These moves profoundly affected Russian plans related to China that the thitherto was certain about given the signed documents and their validity as a done oil deal. From that time onward active, but still somewhat confidential negotiations between Japan and Russia have been taking place.

In February 2003 the idea of Angarsk – Nakhodka oil pipeline with a branch into Daqin was put on the table for discussion during the conference held by Russian Ministry of Economic Development and Trade. Since then and despite the absence of assuring official statements that state otherwise, the idea of Angarsk – Nakhodka (northern route) with a branch into Daqin pipeline project has been tossed around, and at this stage perceived to be closely benefiting Russia's strategic geopolitical interests and should some procedural details be ironed out, may even be economically viable.

The options between either to build the pipeline from Angarsk to Daqing, which had been discussed for ten years, and was becoming more realistic and plausible option, or to choose the Nakhodka route had been a hotly debated issue among various media outlets and research institutes in Russia, Japan and China. Prior to May 28, 2003 the time when the oil companies of China and Russia signed the agreement, which somewhat muted the debates, and strengthened the believe that such an agreement heralded the imminent beginning in the very near future of the construction of the Angarsk - Daqing pipeline. The Chinese side was as much satisfied with the oil agreement, and immediately began works on the construction of the project in its territory.¹¹

Subsequently, in July 2003 Japanese and Russian officials in charge of energy matters met in Moscow to discuss bilateral cooperation on energy projects and after the meeting announced that the two countries had made substantial progress on energy issues. Prior to that, the Japanese Prime Minister Junichiro Koizumi and Foreign Minister Yoriko Kawaguchi had both visited Russia in early and late June respectively. During their visits, they both focused on energy cooperation. According to Russian media, in Vladivostok the Japanese Foreign Minister stated that Japan is ready to invest 7.5 \$ bln in the exploration of oil fields in Russian Siberia, provided that Russia would favor the Angarsk - Nakhodka pipeline. Although Russia did not explicitly reply to Japan's call, it decided nevertheless to postpone the decision until September, as further studies of the economical, technical and environmental feasibility of the projects was underway.

Apparently, the Pacific oil pipeline is of Japan's deep interest. Aside from the visits of top officials' to Russia, the business trips to Moscow of the director-general of the Agency of Natural Resources and Energy Iwao Okamoto are constantly reported in the media. Okamoto is closely involved in the negotiations and promotes the project at both the official and private levels. In September

¹¹ Li Dingxin, China's Energy Challenged by the Pipeline Routes Dispute// <<http://www.uscc.gov>> (accessed on Oct. 31, 2003).

2003, a senior Vice-Minister for Foreign Affairs Tetsuro Yano paid a visit to the Far East. During his meetings with Russian Presidential Plenipotentiary Representative to the Russian Far Eastern Federal District of the Russian Federation Pulikovskii and Governor of Khabarovskiy krai Ishaev, the issues of the Pacific pipeline were discussed as important contributors to bilateral Russia – Japan relations.

The significance of the project for Japan might also be deduced from the public statements of the Ambassador of Japan to Russia Issei Nomura who has been expressing his confidence about future prospects of energy cooperation between Russia and Japan and referring to the Pacific oil pipeline project as a back bone for this cooperation.¹²

Definitely contributing to the uncertainty surrounding the project might in part be, explained by the stream of reforms in the Japanese energy sector. This is in accordance with the government's abolishment of the system of direct support, replacing it with a policy of scrutiny of the private energy related initiatives. Moreover, Japanese business practice is known by its very cautious approach to ventures, as well as structural and organizational changes in the energy sector, that are turning out as hurdles for the Pacific project. Russia, despite the granted investment rank in the fall of 2003, is still dwelling in risk zone. Recent notorious perturbations in the Russian energy business structure and pending governmental extra attention to the industry compelled foreign corporations potentially motivated in doing business in Russia or with Russian energy companies to be more alert in their initiatives.

Furthermore, It was hoped, that the Russian Premier's visit to Japan on December 15-17, 2003 would contribute to the better transparency of the matter. However no assurances were given. Moreover, right after the visit Russian media posted estimates that 2020, as a rather probable year for launching of this Pacific project.¹³

On the whole, in spite of its ever-evolving position, Russia favors the Pacific project. This idea might be supported by the contents of the Russian Energy Strategy to 2020, which includes Angarsk – Nakhodka pipeline with a branch to Daqin project as one of the key aims for development of the national energy sector. At the same time, the Federal Program of the Far East's and Trans-Baikal's economic development does not concert with the national Energy Strategy on this issue. A fairly detailed chapter on regional fuel energy complex development does not articulate Far Eastern territories' involvement into oil

¹² Kak nikogda prejde my nujdaemsya drug v druge. Nezavisimaya gazeta. 29.09.2003// <<http://www.ru.emb-japan.go.jp>>; Internet-press-conferentsia chrezvychainogo I polnomochnogo posla Yaponii v Rossii Issei Nomura. 14.10.2003// <<http://www.ru.emb-japan.go.jp>>; Interview posla Yaponii v Rossii Issei Nomura RIA Novosti. 18.10.2003// <<http://www.ru.emb-japan.go.jp>>; Issei Nomura, Investitsioony klimat v Rossii uverenno uluchshaetsya. Interfax. 11.11.2003// <<http://www.ru.emb-japan.go.jp>>; Rossiya-Yaponiya: solidnyi bagaj mer po razvitiyu dialoga. ITAR-TASS. 4.12.2003// <<http://www.ru.emb-japan.go.jp>>.

¹³ Nefteprovod Angarsk-Nakhodka mojet zarabotat ne ranee 2020 goda// <<http://www.finiz.ru>> (accessed on Dec. 25, 2003)

pipeline project originating from east Siberia.

Thus, though the project has been discussed and deliberated for a rather long time, still there are many conceptual and tactical contradictions and enduring uncertainties from both within and without Russia.

Undoubtedly, having over-played the China card, Russia positioned itself in a quite delicate position. China's sheer dissatisfaction with Russia's behaviour was openly demonstrated in the autumn of 2003 as a response to the activated Russia-Japan energy dialogue. Nowadays, the approach seems to have turned sober minded. Reportedly, Chinese officials are inclined to cooperate on the oil pipeline construction even in its initial design of first Angarsk – Nakhodka with Daqin as the second shift.

The turning point of the project is, expected, to be reached by the time of the Shanghai meeting slated for August 2004. It is believed that the decision on the oil pipeline project will be shaped then.

What pressured Russia to weight the decision on the project this thoroughly? While pondering over the alternatives to the Pacific pipeline, which arguments are considered by Russia as favourable and harmful to its national interests?

The advantages and disadvantages as well as obstacles and encouraging factors of the Angarsk – Daqin and Pacific/ Angarsk – Nakhodka with a branch into Daqin projects were examined and results presented in the comparative table below (refers to Table 2).

Table 2 . Advantages and disadvantages, obstacles and encouraging factors of Angarsk – Daqin and Pacific/ Angarsk – Nakhodka pipeline projects (from Russia's perspective)

Encouraging factors	
Angarsk – Daqin pipeline project	Pacific/ Angarsk – Nakhodka pipeline project
<ul style="list-style-type: none"> - China is highly motivated to obtain Russian oil because it is low-sulphur and can be efficiently processed at Chinese petrochemical plants (having extracted about 21 mln t oil per annum from overseas sources with the possibility of keeping up to 50 %, Chinese economy can not fully benefit from it since it is high-sulphur oil and can not be processed by domestic refineries); - 3 regions in Siberia and Far East embraced by the project can enjoy impacts of dynamic development; 	<ul style="list-style-type: none"> - project is of supreme priority to the Russian government¹⁴; - guaranteed support of the Russian government (expressed by the President, stated in the Energy strategy 2020); - project presumably mollifies Asian countries' energy thirst and ensures stability of oil prices (e.g., by 2020 Russian oil will constitute 25 % of Japan's annual import¹⁵, Japanese dependence on Middle Eastern oil will decrease by 10 %¹⁶ from present level of 88 %); - inevitability of reunification of the Republic of

¹⁴ Sergei Bogdanchikov o vostochnyh marshrutah rossiiskoi nefiti// <<http://press.lukoil.ru>>(accessed on Nov., 5, 2003).

¹⁵ Which country, China or Japan, Does Russian Oil Pipeline Lead to// <<http://russia.shaps.hawaii.edu>> (accessed on Nov. 4, 2003)

¹⁶ Mark A. Smith Russo-Japanese Relations. October, 2003. F 84 Conflict Studies Research Center. UK Ministry of Defence (accessed on the Internet).

¹⁷ Analiticheskii otchyot o perspektivah razvitiya toplivno-energeticheskogo kompleksa Sibiri i Daljnego Vostoka. Podgotovlen informatsionno-analiticheskim tsentrom "Mineral" FGUNPP "Aerogeologiya" MPR Rossii, OAO "Kompaniya Rusia Petroleum". Sentyabr-noyabr, 2002.

	Korea and Democratic Peoples Republic of Korea ¹⁷ is an important argument in setting up conditions for the future collaboration within this whole region;
Advantages	
Angarsk – Daqin pipeline project	Pacific/ Angarsk – Nakhodka pipeline project
<ul style="list-style-type: none"> - oil reserves in Eastern Siberia guarantee filling the designated pipeline; - financing is guaranteed by Russian and Chinese businesses involved; - since the export of liquefied gas from Siberian fields that is directed at Japan may prove to be unfeasible, oil and gas pipeline construction can be adapted in concert with China's readiness for the oil pipeline along side a gas pipeline project (in case of AD or AN to Daqin projects); - having a pipeline built by 2010 Russia can provide 20-30 % of China's oil demand (as of 2002, the Russian oil share is 4.4 %, while 49.6 % of the total Chinese oil import comes from the Middle East¹⁸); 	<ul style="list-style-type: none"> - project ensures aim of diversification of the Russian export due to a broad range of destinations within the entire Asia Pacific Rim; - perspective for development of the Russian oil transporting infrastructure as well as that of the Far East with the use of foreign capital (5 \$ bln concessional credit granted by Japan); - new oil and gas fields in Eastern Siberia can be explored and developed due to offer by Japan of 7.54 \$ bln in loans and credits on favorable terms; - opportunity to develop oil proceeding and transporting facilities in the Russian Far East thanks to 1 \$ bln to be provided by the Japanese government; - project embraces seven regions in Siberia and the Far East, that evidently will give impulse to their economic development;
Obstacles	
Angarsk – Daqin pipeline project	Pacific/ Angarsk – Nakhodka pipeline project
<ul style="list-style-type: none"> - project may fail to meet environmental safety requirements (national preserves and pieces of nature under the UN, UNESCO protection in areas where pipeline is designated to be built); - challenging climatic conditions; - high seismic risk; - possibility of escalation of tensions in Russian – Chinese bilateral relations, that may sharply affect Russia's trade-political status during negotiations with WTO (since China is one of the countries for bilateral negotiating) and result in economical losses (trade restrictions from China's side by means of imposing quotas on Russian metal products, and cancellation of import contracts for Russian machinery)¹⁹; 	<ul style="list-style-type: none"> - since crude's of Western Siberia fields may be tapped by Pacific pipeline, the project may negatively affect construction of Murmansk oil pipeline; - Western Siberian oil fields have been exploited for nearly four decades and are significantly exhausted, consequently, in the long term they may not be reliable; - in case of routing pipeline to Nakhodka with a branch into Daqin with the first train going to Daqin, Japan will not co-finance the project; - project may fail to meet environmental standards and concerns (national preserves and pieces of nature under the UN, UNESCO protection of areas pipeline is designated to be built in); - high seismic risk (30 % of length of the designated project runs throughout territory of seismicity of over 9 on the Richter scale); - there is anxiety about how far Japan can go with giving up its territorial claims (more specifically, whether Japan intends to insist on solution of territorial dispute versus its contribution to project at a later stage);
Disadvantages	
Angarsk – Daqin pipeline project	Pacific/ Angarsk – Nakhodka pipeline project
- closed for the nearest future perspectives of	- insufficient reserves to meet 80 mln t oil/ year

¹⁸ Liu Xiaoli, China Petroleum Security and Regional Cooperation. Presentation at the Conference "Cooperative Measures Enhancing Oil Security in North East Asia". Seoul, Korea. September, 6, 2003// <<http://www.keei.re.kr>> (accessed on Nov. 2, 2003)

¹⁹ Karim Muratbekov, Slojnyi vybor Rossii. s. 3// <<http://www.continent.kz/2003/17/12.htm>> (accessed on Nov. 5, 2003)

<p>further oil and gas fields exploration in Russia;</p> <ul style="list-style-type: none"> - export monopolized by one consumer, rapid economic growth and increasing political power that may be considered as a potential threat to the entire region and beyond; - pricing based on non market principles (as it is set for now, pricing will be calculated on the basket of Chinese oil-refiners located at the point of destination- Russian-Chinese boarder); - reportedly, Transneft will be the operator of the project, which will be financed by all the participants similar to Baltic Pipeline System where financing is by a special investment tariff levied on all partaking companies; 	<p>capacity projected for AN with branch into Daqing pipeline;²⁰</p> <ul style="list-style-type: none"> - higher construction cost; - the possibility of rivalry between AN and Sakhalin projects oil price wise. Price of Siberian oil is expected to be as high as 25 \$/ t excluding shipping, which exceeds that of Sakhalin's oil; Middle East);²¹ - transportation cost from Nakhodka to Yokohama projected to be as high as 30 \$/ t (in comparison with 9-10 \$/ t for the oil from the Middle East
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As can be observed from the table, each of the two projects has its explicit pros and cons and veiled aspects, which may affect either furthering or restricting of the outcomes of the projects.

The virtues as well as the shortcomings characterize the different aspects of the problem under discussion. Some stem from economical consideration, while the other lay in politics and geopolitics, therefore cannot be computed and conveyed in the strict language of figures.

The purpose of this works is not to put together predictions and develop scenarios for further events, but rather to systematize what has taken place thus far and point out to present problems and as well as future prospects.

For the time being, amongst the most detrimental issues to the Pacific oil pipeline project is the problem of resources insufficiency.

1) Reserves.

Resources quantity insufficiency may be the core hurdle to a pipeline oriented to Japan. Needless to say, how much estimations on this point in their concrete figures are still disagreed upon. Notwithstanding that, the prevailing tone of the valuations is that the necessary resources are potentially available. However an enormous deal of exploration works should be accomplished before setting about the project.

According to the analytical report, the Perspectives for Siberian and Far Eastern Fuel-Power Complex Development, potential oil reserves of Siberia and Far East exceed 15 bln t, however a great deal are located in arctic areas therefore unlikely to be studied and extracted in the near future.²²

²⁰ As analytical report of the Russian Institute of Strategic Development of Fuel Energy Complex states, project does not have any real perspective to fulfil the capacity, since even with coefficient of oil extraction as 0.5, proved oil reserves of 1.6 bln t are required// Analiticheskii doclad po problemam osvoeniya mestorojdenii uglevodorodnogo syrjya I ego transportirovki v regionah Sibiri I Daljnego Vostoka. Fevralj, 2003. s. 22.

²¹ Vagit Alekhepyorov Resursnyi potentsial Rossii – lokomotiv ekonomicheskogo razvitiya strany. s. 6// <http://www.rusoil.ru/reviewtext/review/id/720652.html> (accessed on Nov. 6, 2003)

²² Analiticheskii otchyot o perspektivah razvitiya toplivno-energeticheskogo kompleksa Sibiri i Daljnego Vostoka. Podgotovlen informatsionno-analiticheskim tsentrom "Mineral" FGUNPP

Alexsandr Gerdt, a scientist with the Siberian Research Institute of Geology, Geophysics and Mineral Resources believes that, "East Siberian reserves allows for extraction of oil in quantities of up to 30 mln t a year, and that should more exploration be undertaken, the possibility to extend annual production to 50 mln t a year may be reached."²³

On the other hand should exploration of the new Siberian and Far Eastern fields be accomplished by 2015-2020 it would allow for the leveling off of the competitive status of the Sakhalin's and Siberian energy projects. The idea of the projects' timing and rescheduling hence sounds coherent since these projects are similar in market targeting (Asia Pacific countries), but the Sakhalin's projects are more viable in terms of oil price.

As stated by the analytical report on the Problems for Hydrocarbons Development and its Transportation in the Regions of Siberia and Far East, Angarsk – Nakhodka with a branch into Daqin pipeline's feasibility would be guaranteed by reserves of no less than 1 bln t, however geological prospecting proves oil reserves of only 500 mln t allocated so far in the Eastern Siberia.²⁴

According to another appraisal, provable reserves in East Siberia are 373.5 mln t, and in Far East - 415.2 mln t, including 165.3 mln t of offshore reserves. Other possible reserves consist of 655 mln t in East Siberia, and 253.1 mln t in the Far East, including 144.8 mln t of offshore deposits.²⁵

The problem of East Siberia's and Far East's oil reserves insufficiency can be solved by filling up pipeline with oil of West Siberia. However, there are also some limitations. One of them is that western oil fields that are being exploited for over four decades are significantly exhausted and their industrial exploitation might not be prolonged further. Another point is that western oil is traditionally oriented westward and currently, in addition to the European markets, there is a likelihood of supplying American markets with Russian oil. The latter idea is being shaped in a view of the Murmansk project. Some tend to examine this project as an immediate rival to the Pacific one. It is accurate only in part, more specifically, reserve-wise. Yet, argument of the projects' antagonistic competition because of their marketing similarity seems to be precarious. Once the Murmansk pipeline is given the green light, oil will be designated for the Eastern American coastline, while Pacific pipeline is to meet demands of Western American coastline.

On the other hand, there is an opposing opinion to that of the rivalry between Angarsk and Murmansk pipelines. According to the Deputy Minister of Energy Vladimir Stanyov, given that at the time being, the pipeline from western oil fields to Angarsk is unused in its capacity of 45 mln t oil per year the Pacific pipeline

"Aerogeologiya" MPR Rossii, OAO "Kompaniya RUSIA Petroleum". Sentyabr-noyabrj, 2002. s. 36.

²³ Victor Somov, Daqin pishem, Nakhodka v ume// <<http://www.rusenergy.com>> (accessed on Oct. 31, 2003)

²⁴ Analiticheskii doclad po problemam osvoeniya mestorojdenii uglevodorodnogo syrjya I ego transportirovki v regionah Sibiri I Daljnego Vostoka. Fevralj, 2003. s. 19.

²⁵ Ob osnovnyh napravleniyah razvitiya neftegazovogo kompleksa Vostochnoi Sibiri i Daljnego Vostoka s ucheotom realizatsii perspectivnyh mejdunarodnyh proektov. s. 14// <<http://www.gasforum.ru>> (accessed on Oct. 30, 2003)

can be without difficulty filled up with oil from west Siberia.²⁶ Consequently, resource inadequacy should not be seen as an impediment to implementation of the Pacific pipeline project.

One can anticipate that by launching the Pacific pipeline Russia might gain more geopolitical power in NEA. On the other hand, there is the notion that at any rate Russian oil is not going to give the country any real leverage over NEA nations: "Even if Eastern Siberia and the Far Eastern region produces 130 mln t of oil a year and 80 % of this output is exported, the share of Russian oil would not exceed 15 % of combined oil imports by the economies of Northeast Asia in 2020."²⁷ As a counter argument to this statement it can be pointed out that at the average of 15 % for the entire NEA is a level exceeding that of the current 4 %, of the share of the Russian oil in Chinese crude import. If this tendency keeps going on in the same direction, NEA's countries can lessen their dangerous dependency level on the Middle Eastern oil. The means higher stability and predictability in the regional energy market and secure economic development.

Therefore it is clear that the exploration of new oil fields has become an urgent task, in order to proceed with what Russia needs, the execution of the drafted Program of the Hydrocarbons' Geological Survey Works to 2010.

2) Investment.

The adequacy of oil reserves in East Siberia and the Far East directly leads to the investment issue. As mentioned above, "sleeping" oil reserves in Siberia and the Far East are ample. However Russia (represented by government and/or private businesses) by itself will be unable to afford financing the unbearably high costs associated with development of new fields.

Calculations prove that intensive development of new large oil and gas centres in East Siberia and Sakha Republic require investment of 86.8 \$ bln, including 14.5 \$ bln for geological prospecting, 42.4 \$ bln for oil and gas deposits' development, 10.4 \$ bln for pipeline network construction, and 19.6 \$ bln for construction of gas liquefying plants and terminals.²⁸

According to Yukos' estimates, to add 1 mln t a year of the oil output from new fields requires 300 \$ mln in investment. That means that Angarsk – Nakhodka project demands about 15 \$ bln to fill the pipeline from new sources, and Angarsk – Daqin would require about 9 \$ bln.

Co-financing of the geological surveys and exploitation of Siberian and Far Eastern energy projects might be a strong argument in favour of one of the options. What happened to the Pacific oil pipeline in this connection is a very

²⁶ Nkhodka ili Omishalj. Otpravlya neft iz Zapadnoi Sibiri na udalonnnye exportnye rynki vygodne po vostochnomu marshrutu// <<http://www.rusenergy.com>> (accessed on Dec. 24, 2003)

²⁷ Vladimir I. Ivanov, Russian Strategy for New Oil and Natural Gas Development. Materials of presentation held at Korea Energy Economics Institute. Energy CEO Lecture Program. November 7, 2003 (courtesy of Vladimir I. Ivanov).

²⁸ Ob osnovnyh napravleniyah razvitiya neftegazovogo kompleksa Vostochnoi Sibiri i Daljnego Vostoka s ucheotom realizatsii perspektivnyh mejdunarodnyh proektov. s. 13// <<http://www.gasforum.ru>> (accessed on Oct. 30, 2003)

peculiar case. Since January 2003, the Russian side had been thinking that it was given a proposal of investment for the new oil fields exploration and accomplishment of the energy project targeting Japan. Japan's readiness to co-invest and co-finance expenses related to the Pacific oil pipeline amounting to over 13 \$ bln was widely reported (especially right after Kawaguchi's visit to Vladivostok in June 2003).²⁹ At least, the sum of 7 \$ bln³⁰ was often referred to, of which 5 \$ bln were allegedly proposed for pipeline's construction and 2 \$ bln for geological surveys in East Siberia.³¹ It was also conveyed by the Russian media, that, this reason why this was put forward by Japan was in order to persuade Russia to make the choice in favour of Angarsk – Nakhodka oil pipeline design. So, it can be imagined how ridiculous Russia looked, when it was asked, by the Japanese side from where these believes and hopes about financial support originated from.³² To be impartial, it has to be clarified that an examination of the records of official visits of Koizumi, Kawaguchi, Kasyanov as well as the phone talk between the Japanese Premier and the Russian President in both English and Japanese proved the point that: there was nothing concrete about financial provision of the energy project mentioned. Naturally, it is rather difficult to recall precise chain of events; however, such Russian believes cannot be completely groundless.

An additional investment related remark is warranted here to drive the point further. If the Pacific project materializes, it will bring about tremendous social benefits for the Russian eastern regions. These social benefits have not been reflected in contemporary corporate accounting as incentives for investment. In a sense this extra long distance trunk line should be regarded as social infrastructure that brings about substantial social benefits, therefore it should be quite meaningful for the government sector to implement it. Given that the government sector will make a decision to construct, prior assurance of financial fees necessary for investment decisions of the private sector may not be required and thus the initial thresholds of the project can be substantially lowered.³³

Certainly energy related projects proposed or backed by private businesses need government support, the latter is not necessarily required for funding or preferences, but prestige of authority is one of the key factors to a country risk ranking. Being ranked as high leaves business ideas hanging in the air and makes any deals inscribed on sand. From this point of view, on the eve of the 2004 Presidential, and some region-level elections, concerns of higher uncertainty might impede energy sector related investment initiatives.

²⁹ Pohichenie Vizantii// <<http://www.expert.ru>> (accessed on Jan. 12, 2003)

³⁰ Russia energy: Pipe games in Asia// <<http://home.aigonline.com>> (accessed on Dec. 30, 2003)

³¹ Yapontsy potratyat \$ 7 milliardov za dustup k rossiiskoi nefi// <<http://www.izvestis.ru>> (accessed on Oct. 12, 2003); Zamknutyi krug. Vostochnaya Sibir jdyot, kogda nefyaniki I goschinovniki dogovoryatsya mejdu soboi// <<http://www.rusenergy.com>> (accessed on Oct. 30, 2003)

³² Glava rossiiskogo Minenergo ne ponyal yapontsev. 7 milliardov nam ne predlagali// <<http://www.lenta.ru>> (accessed on Oct. 14, 2003)

³³ Kensuke Kanekiyo, Russia's Oil Development and its Implication for Japan: Part II. Opening up a way to the Pacific market for Russian Petroleum Resources. P. 3// (accessed on the IEEJ home-page)

3) Transportation tariffs and oil prices

There is an apprehension, that due to its high construction and maintenance costs, oil pipeline originating from Angarsk would not be economically expedient. However, according to available computations for the Angarsk - Nakhodka with a branch into Daqin pipeline project, the minimal transportation tariff calculated with an allowance for 10 % return on capital is 23.25 \$/ t, and in case of return on capital is as high as 15 % with tariff equaling 30.75 \$/t.³⁴ As for Transneft' estimates, transportation tariff would be as low as 17.4 \$/ t.

Given that in the foreseeable future oil prices in the world market are projected to be not less than 25 \$ per barrel (according to Exxon) or may even soar to as high as almost 50 \$/ b (Mobile's estimations), therefore price and transportation parameters of the project would not be that burdensome.

4) Environmental issues.

Environmental deadlock is one of the most severe impeding barriers. The complexity of the problems that may be encountered can be strenuous.

In all its different routings, the pipeline bypassing Baikal Lake in the shortest distance (may in case of oil spills pollute the lake in a matter of hours or at most days), may have to cross very fast moving rivers (Snejnaya, Selenga, Angara, Amur) or may cut through the Tuninskiy National Park, Borgoiskiy Preserve, Altacheiskiy Federal Preserve, and Tuguiskiy Preserve, or even go through marshes.

In the Tuninskiy National Park, law prohibits pipelines, electric grids and trunk roads. Yet there are groups that are deeply interested in the project's implementations and are energetically lobbying for the matter and for the status of the territory designated for crossing by the pipeline by granting it exemption and immunity.

It also seems that, even if federal legislation is amended, the five administrative regions in Buryatiya to be transited by one or the other pipelines have identified 39 spots requiring archaeological excavation before construction can take place. Even if fully financed and staffed, such massive research efforts would take at least two or three summers to complete.³⁵

More than that construction could destroy the habitat of rare and endangered species, such as the snow leopard.

According to projections, the Pacific pipeline would be in parallel with a terminal for shipment of oil with 300.000 tonnage tankers. Because of this, there is rising concern about unavoidable oil spills that can result from malfunction of this oil terminal, and in turn inflict harm on the Far Eastern State's Maritime Natural Reserve, that is located about 30 km to the south of Perevoznaya Bay.

³⁴ Analiticheskii doclad po problemam osvoeniya mestorojdenii uglevodorodnogo syrjya I ego transportirovki v regionah Sibiri I Daljnego Vostoka. Fevralj, 2003. s. 19.

³⁵ Vladimir I. Ivanov, Russian oil for Northeast Asia. p. 18// <<http://www.rusrev.org>> (accessed on Oct. 30, 2003).

According to another survey conducted by the Interregional NGO Far Eastern Resource Center "Initsiativnaya Setj Aktivistov Regiona" ("Network of Regional Activists"), 25 % of the 600 people that respondent are definitely against any terminal construction, while 25 % are said to be quite anxiety about the aftermath of the project.³⁶

Understandably environmentalists have raised their objection to both proposed routes of the pipeline. That has given the government a basis of referring to the projects' environmental concern as one of the impediments and reasons for backtracking or on making a final binding decision on the projects.

5) Region's development.

The Pacific pipeline project's impacts on the regional development per se seem to be beneficial. General anticipations might be expressed as following, "To construct Angarsk - Nakhodka main oil and gas pipeline with a feeder line leading into Daqing (China) is in the best national interest. It is advantageous for the development of East Siberia and the Far East and is rather conducive to the comprehensive tapping of these natural resources."³⁷

As per more concrete appraisals, of the Council on Productivity Study affiliated with the Ministry of Economic Development and the Russian Academy of Sciences, has calculated that the Pacific pipeline during its life span may lead to an additional GDP growth as large as 19.7 \$ bln. Positive impulses would be observed in servicing and other related industries. All taken together would multiply by a twofold each 1 \$ invested into the oil pipeline project.³⁸

There is no doubt that if such a large-scale oil pipeline is started, Siberia and the Far East would benefit from an increase in economic activity. Obviously these territories face a large number of problems due to their severe climate, location that hampers intraregional economic contacts, high production cost decreasing goods' competitiveness, harsh living conditions that can be challenging to people, etc. When it comes to the question of "to be or not to be" the Pacific oil pipeline if constructed, should take into account these very complicated mixture of factors.

Opponents of these massive exploitations of the natural resources have on their hand rather plausible arguments about Sakhalin's experience of operating the production sharing agreements (PSA). At the end of the day, the PSA having expected a mammoth influx derived from development of different kind of activities on the island, have however been encountering expenditures to the Russian budget, which at the time being, exceed the total amount of revenues by an enormous 623.2 \$ mln.³⁹

³⁶ Itogi kruglogo stola// <<http://www.isardrc.ru>> (accessed on Nov. 6, 2003)

³⁷ Which country, China or Japan, Does Russian Oil Pipeline Lead to// <<http://russia.shaps.hawaii.edu>> (accessed on Nov. 4, 2003).

³⁸ Nefteprovod napravili na Kitai. Cherez zapovednik// <<http://www.seu.ru>> (accessed on Nov. 6, 2003)

³⁹ Zatraty na proecty Sakhalin I I Sakhalin II prevysili dohody na 623.2 \$ mln// <<http://www.vsluh.ru/print.shtml?num=46821>> (accessed on Nov. 6, 2003)

The situation on Sakhalin's PSA nonetheless, has led to energetic deliberations in the Russian mass media as well as Parliament, and finally resulted in profound changes of related legislation. As for Sakhalin -1 and Sakhalin – 2, they would have to be completed on terms defined at the time they had been concluded.

Of course, the matter can not just be conveyed in raw figures like for example budget's revenues or losses. Behind these figures rests human consequences. The overwhelming majority of residents there are life-long bound to the Russian east, the very Far East that is not such an auspicious place to live in. The author having travelled on business to Sakhalin has had firsthand opportunity to verify the accuracy of the above findings. In fact a particular anecdote, a kind of bitter one recounted amongst the Sakhalin's people is that the most evident change on the island is the skyrocketing prices in the local real estate market. Yet, Sakhalin does still attract some of its work force from the entire Far East and beyond, however there is an invisible line between those who work for foreign energy companies (naturally, foreigners who are employed for CEO positions) and the rest of the population. There are of course some oases of comfortable life, but they are fenced in and hidden from the prying eyes. What are evident at first glance are the roads that are full of potholes, decaying buildings, and other non-glamorous sites that are of commonplace. The question of why this is so, though unfortunate, is for now outside the scope of this study.

What is important while pondering over pipelines originating in Siberia is to determine the full outcome of the projects under consideration, foresee the possible detrimental impacts and set about a mechanism for their prevention or mollifying them.

In a further part of this works a more precise assessment of pipeline's likely outcome from the Far Eastern economy's prospective will be provided.

Pacific oil pipeline to the Russian Far East (RFE) economy

Some foreign observers remain pessimistic and are strongly convinced that, notwithstanding that over the past decade, the region has made notable progress represented in expanding trade and attraction of substantial foreign investment, the RFE is still unlikely to play more than a marginal role in the Pacific Rim economy. Still underdevelopment, lack of genuine power of local authorities, and crime undermine attempts to integrate the RFE more fundamentally into the Asian economy.⁴⁰ However, increasing interest of the Asian states for the diversifying of their energy supplies and finding of less costly shipping routes have focused attention on potential opportunities in the Russian Far East.

While looking at the findings on the current Far East's economic performance and its foreign economic relations, reading and listening to regional media, it is pointless to dispute over the fragmentary character of its cooperation with Asian countries.

⁴⁰ Asia Int. Special Reports. Asia and the Russian Far East: the dream of economic integration. p. 19 (accessed on the Internet, Nov. 17, 2003)

Initial limitations to the active integration of the Russian Far East with the neighbouring Asian countries are stemming from economic fundamentals. The Far East is experienced with economic inertia, which can be explained by nature of its economic model inherited from the Soviet times. The model had been shaped as a result of viewing the Far East as the nation's military outpost of the Asia Pacific region. Consequently, ideology, military ambitions and threats unquestionably affected the structure of the regional economy. On the other hand, such impartial circumstances like climate, geographical location, natural resources, etc, also did play their part.

Presently, the Russian economy as a whole, is being moved forward by domestic demand,⁴¹ which taken together with the especially favourable juncture of the world energy market has become an accelerator for economic dynamics. Meanwhile, the Far East with its scarce population and legacy of the military complex has no other choice but to be oriented towards overseas markets.

At the moment, the regional economy is not backed by any deep-seated hubs for overcoming economic slowdown, since the local demand, remains flat and even shrinking. Export activity does not give the same revenue as it used to yield in the periods of acute devaluation of the ruble (beginning of 1990s or after August, 1998 crisis). Moreover, the Far Eastern producers/ exporters are competing in a rather narrow edge of the Asian marketplaces. The heart of the problem seems to be in a model of rivalry that is based on price competition on limited nomenclature of goods.

One of the lessons learnt from the recent practice of international contacts, is that such kind of strategy (or tactics) drastically flattened Japanese market for Russian timber. The shocking fact is that lumber exports from the Russian Far East to Japan is being intermediated by China. Importing Russian timber, processing it into semi-finished goods and exporting them to Japan, Chinese companies became rivals to the Far Eastern ones in the Japanese market. Trade of fish and maritime products appears even more absurd and has become the talk of town. One example can display the scale of chaos in this sector. That is to say, Russian trade statistics differs from Japanese data at times showing far less volumes of Russian export. The paradox rests on technical and technological backwardness and business shortsightedness of the Russian enterprises, which are profoundly disintegrated and operate in the external marketplaces led by considerations of their immediate benefits. Though, Far East' export activity is not a zero-sum game, still, should the foreign economic activity be organized and developed, more economically sound, companies, regions and the entire national economy could benefit much more.

It is recognized that the encouraging impact of national currency's devaluation is exhausted, that means that continued economic development can be achieved

⁴¹ The author in no way wants to minimize energy export's role in the Russian economy. Since the second part of 1999 energy complex have been acting as an engine for economic progress, however growth that occurred right after August 1998 in a broad array of national industries allows assuming that domestic factors are also of a great importance.

primarily if internal conditions are favourable (or at least, not restrictive). From this point, it is explainable why during the post-Soviet period, the Russian Far East's economy shrank by 60 % (in comparison with 40 % as for entire Russia) and still demonstrates economic growth of nearly nil per cent (0.6 % in 2001 and -1.7 % in 2002⁴²) when Russia reports about annual increase of over 4 %. In this sense if there is to be any perspectives for robust development of the Far Eastern economy, then it must be involved in close cooperation with the Asia Pacific countries.

Since Russia and Japan are the focal actors of the Pacific pipeline project, let us shed a little light on the current status of bilateral economic interactions.

The degree of economic activity between Japan and Russia is quite low, and potentially could be higher. Russia's share in Japan's total foreign trade turnover is just over 1 per cent. As of 2002, Russia experienced with 0.22 per cent of total Japan's export and 0.97 per cent of Japan's import.⁴³ It is Japan's 18th trade partner. In turn, Japan held 1.7 per cent share of Russian export and 2.12 per cent of its total import.⁴⁴

Investment levels are also thin. In 2001, Japanese cumulative capital in Russia was worth 408 \$ mln, including 184 \$ mln of direct investment.⁴⁵ All put together, Japanese investment totalled 1.2 per cent of all foreign investment in Russia and made Japan the tenth largest investor in the Russian economy. To be accurate, Japan's investment has been increasing during the last years, this is happening due to the Sakhalin energy projects' development in which Japanese companies have sizable stakes. By 2002, they have already invested 1 \$ bln and ultimately intend to invest 8 \$ bln.⁴⁶ In total, in 2002, Japan invested in Russia 440 \$ mln and its cumulative investment totalled 990 \$ mln.⁴⁷ Reportedly, Japan's direct investment succeeded 1.1 \$ bln and totalled to over 1.5 \$ bln, as of September 2003.⁴⁸

For the Far Eastern region Japan is by far the significant partner, occupying the third position amongst its top trading partners (refer to table 3). On the other hand, though, Japan is gradually being surpassed by the more energetic China and South Korea.

Table 3. Trade between the Russian Far East and Japan, \$ mln

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
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⁴² Ishaev V.I., *Strategiya razvitiya Daljnego Vostoka v izmenyayuchemysya mire*// <<http://www.adm.khv.ru>> (accessed on Dec. 30, 2003)

⁴³ Shadrina E.N. *Vneshnetorgovoe sotrudnichestvo Rossii i Yaponii: sostoyanie i perspektivy razvitiya*.- Khabarovsk: KSAEL, 2002. s. 20.

⁴⁴ Ibid.

⁴⁵ *Konjunktura investitsionogo rynka Rossii v 2001 godu*// BIKI. № 43. 2002. s. 3

⁴⁶ *Potential Russian Far East oil pipelines*// <<http://www.vic-info.org>> (accessed on Nov. 30, 2003)

⁴⁷ Teruaki Ueno, *Japan urged to help develop the Far East*// <<http://www.moscowtimes.ru>> (accessed on Dec. 17, 2003)

⁴⁸ *Possible business opportunities between Japan and Russia*. Seminar organized by JETRO and Embassy of Russian Federation in Japan. December 3, 2003.

Russian Export	730,0	892,1	995,0	1173,3	1244,0	1066,0	739,7	679,8	741,9	632,3	704,1
Russian Import	230,6	208,1	110,0	188,0	177,2	253,8	140,6	140,1	132,4	187,9	166,5
Turnover	960,6	1100,2	1105,0	1361,3	1421,2	1319,8	880,3	819,9	874,3	820,2	870,6

Source: Shadrina E.N. Vneshnetorgovoe sotrudnichestvo Rossii i Yaponii: sostoyanie i perspektivy razvitiya.- Khabarovsk: KSAEL, 2002. s. 25

The intensity of trade cooperation between Japan and the Far Eastern regions is quite different (refer to table 4). As can be deduced from the data, the most worthy findings on trade are particular to Primorsky krai, which is rich in fish and marine products, Sakhalinskaya oblast, which holds an abundance of sea products and energy resources, and Khabarovskiy krai, which possesses plentiful timber resources.

Table 4. Foreign trade turnover of key Far East's regions with Japan, \$ mln

Region	1997	1998	1999	2000	2001	2002
Khabarovskiy krai	318,9	195,7	255,3	245,4	214,0	204,0
Primorsky krai	410,6	324,0	198,5	226,0	305,8	280,7
Sakhalinskaya oblast	174,3	142,4	137,0	174,4	178,0	228,3
Sakha Republic	177,1	43,4	96,6	118,1	35,2	-
Kamchatskaya oblast	198,0	134,4	73,3	87,5	90,4	83,8
Magadanskaya oblast	19,8	12,6	6,3	12,9	32,4	-
Amurskaya oblast	15,3	27,8	0,01	9,4	17,7	20,0

Source: Shadrina E.N. Vneshnetorgovoe sotrudnichestvo Rossii i Yaponii: sostoyanie i perspektivy razvitiya.- Khabarovsk: KSAEL, 2002. s. 27.

While examining the structure of trade exchange, it is noticeable that amongst other trade partners Japan has a leadership in importing Far Eastern coal, lumber and marine products.⁴⁹

As per investment activity in the Russian Far East, the inheritance of bilateral cooperation during 1990s did not ensure Japanese companies extension of their presence in the Russian economy. However there are examples of rather successful business transactions in sectors of Japan's vital interests (namely, energy, viz – Sakhalin I and II projects, and forestry). Indisputably, as more offshore oil and gas projects will be progressing and achieving their projected capacity, the more Sakhalinskaya oblast (as well as other RFE territories rich in fossil fuel) will be eyed by foreign and Japanese in particular as trustworthy area for business activity.

Yet, it is obvious that present intensity of Russian-Japanese cooperation is rather far from the desired level (or at least proclaimed as desired). Beyond the political and geopolitical issues, the reality is that the countries have comparatively narrow segments where their economic interests converge. It is so not because of unwillingness to cooperate, but rather because of the overwhelming gap

⁴⁹ Strategiya regional'nogo razvitiya: Dal'nii Vostok i Zabaikalje. Materialy seminarov "Strategiya razvitiya" ot 27 octyabrya 2003 g.- Moskva: TEIS, Vysshaya shkola biznesa MGU im. M.V.Lomonosova, Institut Strategicheskikh Issledovaniy, 2003. s. 33.

between the two economies.

Russia has repeatedly emphasized on its aspiration to overcome the existing export oriented model that is largely dependant on energy resources. Certainly, it is intolerably, that the key factor for budget projections for a large state such as Russia is the price of oil on the world market. On the other hand, examples of many other countries prove that the “Dutch disease” is not that fatal to a national economy. Clearly, at some stage natural resources as the foundation for domestic economic development are an excellent factor for accelerating a nation’s incorporation in the system of international labour division. However, in order to create conducive conditions for the betterment of the national economy, resource oriented export providing the state with enormous earnings has to be supported by sound strategy and of making full use of these revenues with the highest efficacy. Unfortunately, Russia has not been displaying such aptitude thus far.

If Russian economy as a whole might be characterized as a resource based, the Far Eastern one by far develops the same model. Under these circumstances, opening possibilities for expanding international cooperation cannot be ignored. At the moment, while making decision on the Pacific pipeline, merits and demerits of the initiative should be surveyed.

So after having the Pacific pipeline constructed, what will the Far East and Siberia gain from this?

If while comparing the Pacific and China oriented pipelines, the quantitative characteristics of the projects are taken into account (refer to tables 5 and 6), the Pacific project appears to be more impressive.

Table 5. Pacific oil pipeline project’ outcome on the Far Eastern territories embraced by it

Criteria	Far Eastern regions							Total
	Irkutskaya oblast	Buryatia Republic	Chitinskaya oblast	Amurskaya oblast	Jewish Autonomous oblast	Khabarovskii krai	Primorskii krai	
Length, km	584.5	48.3	301.1	1402.8	318.1	245.8	545.2	3884.8
Number of pumping stations	6	4	6	6	1	2	2	23
Costs for construction, bln \$	1.1	1.2	0.8	2.9	0.6	0.6	1.1	8.3
Number of work force during construction, thousand	2.4	1.9	1.0	3.8	0.7	0.8	2.0	12.6
Number of work force maintaining constructed pipeline, thousand	1.0	0.6	0.3	1.0	0.1	0.4	0.6	4.0

Taxes to be paid to the territory's budgets, summarized for the 25 years period of exploitation, mln \$	456	377	231	1064	240	190	412	2970
Including:								
profit tax	349	291	180	838	190	147	326	2322
property tax	85	70	44	203	46	36	79	562
social allocations	6	4	2	6	1	2	2	22
Income tax	17	11	6	17	3	6	6	64

Source: compiled from <<http://www.isardvrc.ru>> (accessed on Nov. 6, 2003)

As can be deduced from the tables, the Pacific pipeline would be 2,432 km longer (that is the pipeline's route which would be through the Russian territory) and more costly, however there is one very commendable characteristic of the Pacific project in comparison with Angarsk – Daqin pipeline. It is in the fact that the former would cross four most developed and inhabited Far Eastern territories while the China oriented pipeline would absolutely bypass Far East only running throughout three Siberian administrative regions.

Table 6. Angarsk-Daqing Pipeline: An Economic Impact Assessment (US\$ million, persons)

Region	Pipeline length, km	Capital investments	Budget revenues	Construction jobs	Service jobs
Irkutskaya oblast	108.0	114.0	85.0	620	775
Buryatia	552.3	554.0	320.0	1,120	453
Chitinskaya oblast	453.0	453.0	427.0	1,415	462
Total	1,452.4	1,121.0	832.5	3,155	1,690

Source: Ivanov V. Russian Oil for Northeast Asia: Opportunities, Problems and Policies// <http://www.rusrev.org> (accessed on Nov. 17, 2003)

Obviously, the Pacific pipeline is by far in the Far East's economic development interest. The territories involved in the project might acquire wide-range benefits from developing energy cooperation with neighbouring countries.

Comparisons on general parameters of the Pacific and China oriented projects'

Calculations of the projects' efficacy attest that it would depend on the region from where the oil would be tapped and point of final destination (Daqin or Nakhodka) net profit from selling one tonne of oil would be:

- if oil price would be 13.5 \$/ b, amount of net profit ranges in diapason of 7 – 25 \$/ t (rate of profitability would be 6.5 % - 29 %);
- if oil price is 22 \$/ b – 32 – 50 \$/ t (rate of profitability would be 22 % - 32 %);

- if oil price is 28 \$/ b, net profit may reach 45 – 65 \$/ t (rate of profitability may amount to 22 % - 44 %).⁵⁰

It is evident that the Pacific pipeline would considerably surpass Angarsk – Daqin project in terms of its construction cost although it would:

- bring 0.2 \$ bln more budget revenues to the Siberian territories, 2.1 \$ bln more budget revenues to the entire East Siberia and Far East (allot 1.9 \$ bln revenues to the Far Eastern territories' budgets);
- create 2,137 more construction jobs in Eastern Siberia, 9,445 new jobs in the whole of Eastern Siberia and the Far East, (of which 7,300 jobs would be in the Far East) and;
- allow for 210 more service jobs in East Siberia and 2,310 more jobs in East Siberia and Far East taken together (provides 2,100 service jobs in the Far Eastern territories).

Given that the Pacific project calculations are based on capacity of 55 - 60 mln t oil and tapping of East Siberia and Sakha Republic's fields, by 2030 net profits of the companies involved in this project would amount to over 55 \$ bln, and their budget revenues would total up to 30 \$ bln. With extraction capacity of 110 – 120 mln t, the projects outcome is forecast to be as high as 120 \$ bln and 45 \$ bln respectively.⁵¹

As regards to the projects' economics, provisional data speaks well for the Pacific pipeline.

Employment and migration.

Findings in Table 5 illustrates that Irkutskaya oblast and Amurskaya oblast are likely to become the main beneficiaries from the Pacific pipeline project. It would be very important for the Russian eastern regions that construction and servicing the pipeline would create additional demand for a greater number of labours. In total the number of planned for personnel would equal to 0.11 % of the total population in the Far East. For Amurskaya oblast, which is experiencing relatively low level of income (as low as 70 % of that in Khabarovskiy krai⁵²) and especially high rates of unemployment (13 %, according to the official data⁵³), construction of the pipeline will have particularly positive consequence.

Growing opportunities for employment will certainly improve the demographic situation in the Russian Far East. According to the preliminary results of the last census, the total population of the Russian Far East is 6,680 thousand people, which means a decrease of 1.5 mln in comparison with that of early 1990s (8.2

⁵⁰ Ob osnovnyh napravleniyah razvitiya neftegazovogo kompleksa Vostochnoi Sibiri i Daljnego Vostoka s ucheotom realizatsii perspektivnyh mezdunarodnyh proektov. s. 13// <<http://www.gasforum.ru>> (accessed on Oct. 30, 2003)

⁵¹ Ibid.

⁵² Iwashita Akihiro, Opyt prigranichnogo sotrudnichestva Rossii i KNR// <<http://src-h.slav.hokudai.ac.jp>> (accessed on Dec. 30, 2003)

⁵³ Programma ekonomicheskogo i sptcialnogo razvitiya Daljnego Vostoka i Zabaikaljya v 1996-2005 gg. i do 2010 g.// <<http://www.programs-gov.ru>> (accessed on Dec. 27, 2003)

mln). The main reason of this decline is migration, tremendously hastened by the economic downturn and deterioration of living conditions. This trend may have even led to the “Chinese factor,” which is the swelling of the Chinese perhaps by the millions, by some estimates, in the Russian Far East. According to the Russian official surveys, in Khabarovskii krai, Primorskii krai, Jewish Autonomous oblast and Amurskaya oblast Chinese living and working there are in diapason of from 200 to 250 thousand.⁵⁴ Chinese statistics displays figures not exceeding 100 thousand Chinese in the entire Russian Far East.⁵⁵ Still, 100 or 200-250 thousand in comparison with the whole Russian population in the Far East of fewer than 7 mln may be considered as an influx and cause for alarm for Russia.

Industrial development

According to the estimates, by 2030 the Russian Far East's and East Siberia's total demand for the oil and oil products is projected to rise to 32-40 mln t, including increase of demand for gasoline and diesel fuel to 19-29 mln t.⁵⁶

At the time being, over 94 % of the oil that is for processing in the Far Eastern and Trans-Baikal refineries as well the consumption in the regional fuel power complex comes from outside of the region. That results in regional energy tariffs that are 1,5 times higher when compared to the average level in the rest of Russia.⁵⁷ Therefore, reorientation of some of the Far Eastern and Siberian demand for local resources is a timely alternative and will inevitably stimulate a robust economic growth in the region.

The Pacific pipeline's projections do assign 10 mln t oil a year for the regional needs. This argument is of quite serious importance for regional economic progress. Since Far Eastern oil fields and oil delivering infrastructure have not been developed, there is a shortage of crude oil that has been a restrictive factor for the regional oil refinery. Nowadays, there is a strong believe that the accomplishment of the pipelines projects brining oil from West and East Siberia and Sakhalin will allow making more intensive use of the Khabarovsk and Komsomolsk-on-Amur oil refineries' productivity, the combined capacity of which totals to 10 mln t a year. It is planned that given reconstruction of the Khabarovsk refinery completion, it would assure exporting of oil products for 110 \$ mln a year from 2005 with extension of those volumes to 150 \$ mln by the year 2010.⁵⁸

In addition, exploration of the regional oil reserves might stimulate industrial activity in Sakha Republic, Primorsky krai (Nakhodka), Magadanskaya oblast and

⁵⁴ Strategiya regional'nogo razvitiya: Dal'nii Vostok I Zabaikalje. Materialy seminara “Strategiya razvitiya” ot 27 octyabrya 2003 g.- Moskva: TEIS, Vysshaya shkola biznesa MGU im. M.V.Lomonosova, Institut Strategicheskikh Issledovaniy, 2003. s. 21.

⁵⁵ Kitai razocharovan politikoi Moskvyy// <<http://www.rusoil.ru>> (accessed on Nov. 6, 2003)

⁵⁶ Ob osnovnykh napravleniyah razvitiya neftegazovogo kompleksa Vostochnoi Sibiri I Dal'nego Vostoka s ucheotom realizatsii perspektivnykh mejdunarodnykh proektov. s. 13// <<http://www.gasforum.ru>> (accessed on Oct. 30, 2003)

⁵⁷ Dal'nii Vostok I Zabaikalje 2010/ Pod red. P.A. Minakira. – M.: Ekonomika, 2002. s.77

⁵⁸ Ibid, s.63

Chukotsky Autonomous district, since construction of small capacity refineries is expected to be carried out there.

Development of infrastructure.

According to the Energy Strategy of the Russian Federation to 2020 and a number of regional (Siberia and the Far East) documents devoted to the problems of oil and gas fields' exploration and tapping, development of hydrocarbons transporting infrastructure is one of the priorities. Oil and gas trunks with a total length of 7 thousand km, are projected to be constructed in East Siberia and Far East. In this sense, the Pacific project is in full harmony with this strategic task. Moreover prospects of the Far Eastern seaport infrastructure modernization assure higher attractiveness for the Pacific project. "For Nakhodka and the region around it, an oil terminal feeding Asia could revive largely dormant economies. "If our ports are working", said Gennady Zakharov, Nakhodka's labour director, "the whole territory will become alive."⁵⁹

At the moment, it seems appropriate to share this appeal of this rather popular idea that should it materialize, the regional economy as a whole would be subject to profound gains especially that it would embrace simultaneous oil and gas development. It is well known, that synergy effects of such approach are enormous and can be summed up as follows:

- reduction of construction costs. Angarsk - Nakhodka oil-gas dual pipeline would cost around 11-13 \$ bln, including the Angarsk – Daqin oil pipeline;
- decrease of servicing costs;
- improved return on investment;
- prospects for combined shipments;
- increase of reserves and;
- longer life span of the projects.

Moreover, such a large-scale project might give an impulse to development not only of energy infrastructure, but also of transport, financial, and business environment in the whole.

Social impacts

It is well known, that in terms of energy security the Far Eastern and Siberian regions are not equally endowed. Notorious winter epopees in Primorsky krai, Kamchatka's life tuned to the schedule of the fuel carrying tankers', constant struggle against the permafrost in Yakutia, these are all but a few of the pressing necessities that call for the development of regional energy resources for the sake of social stability of the region.

Though it had not been computed yet, it also can be supposed that the expanding energy supply in the region would ease the burden of energy tariffs, which are several times higher in comparison with the western Russian regions

⁵⁹ Old rivalry flares as China, Japan vies for Russian oil// <<http://www1.chinadaily.com.cn>> (accessed on Oct. 30, 2003)

for both industries and population. Consequently, enlarging energy supply from the local sources may mean lower consumer prices, transportation tariffs, etc, and generally will lead to ensure a higher standard of living in the eastern regions.

Instead of conclusion

An examination of the Pacific oil pipeline's possible impacts on the Russian Far East' economy undertaken in this works has attempted to address the scale and complexity of the issues linked to this initiative. The political and geopolitical, economical and geoeconomical countries' interests, considerations for law and international law, etc. are tightly intertwined. More so, each specified field can be regarded as part of the quadruple system comprising international (bi- or multilateral), national, regional and business dimensions. Therefore, at this stage, when the project is just being shaped and under scrutiny, it is rather difficult to figure out its outcome precisely. One issue is crystal clear though, for the Russian Far East energy related initiatives might provide the much-needed last opportunity for membership into the NEA community. Naturally, such large-scale cooperation might have some adverse effects on the regional economy. However, the Russian Far East for the first time may gain a rather unique chance to be profoundly involved in the international labour division system and hence must use this opportunity based on a thorough strategy for sound economic development.

Appendix

Companies' profiles

Yukos is a fully integrated oil-and-gas company headquartered in Moscow and is one of the world's largest non-state oil companies (by reserves and market capitalization), was established on April 15, 1993 by Decree No. 354 of the Russian Federation. Through a series of tenders and auctions held in 1995-1996, YUKOS became Russia's first fully privatized oil company.

It has been expected that after merging with Sibneft (the fifth-largest oil producer) slated for 2003, Yukos would become Russia's largest oil company and the world's fourth largest. As YUKOS was ran by entrepreneur Mikhail Khodorkovsky (along with other insiders, he reportedly possessed about 44 % of the company stakes). Khodorkovsky was later arrested for alleged tax fraud in 2003 leading to his resignation, and a tie-up between the two corporations, due to be rubber-stamped on Nov. 29, 2003, was unexpectedly called off by Sibneft. At the end of December 2003 the merge had been nullified. The two companies however agreed to a "mirror deal" and have kept operating separately. Semyon Kukes has currently taken over as YUKOS CEO.

Yukos has proven reserves of 2.65 bln TOE and extracts 98.25 mln t of oil annually. Its oil and gas reserves are largely located in the Khanty-Mansi and Tomsk regions of Western Siberia and the Samara Region along the Volga River in the European side of Russia.

YUKOS owns five refineries, located in the Samara, Penza, Voronezh, Orel, Bryansk, Tambov, Lipetsk, and Ulyanovsk Regions of Central Russia and runs eighteen distribution companies and more than 1,200 filling stations under the YUKOS brand name. The company is currently eyeing exploration opportunities in Kazakhstan and Africa.

<<http://biz.yahoo.com>>
<<http://www.troika.ru>>,
<<http://www.rusnet.nl/news/2003/10/21/print/businessseconomics02.shtml>>,
<<http://news.bbc.co.uk/1/hi/business/3250728.stm>>

Transneft is a Russian state-owned company, which runs, maintains and develops pipeline networks in Russia. The company is charged with ensuring the transportation of crude oil by appropriate volumes and routes specified in the transportation (export) schedule produced by the Russian Government's Inter-ministerial Commission. The schedule is based on annual transport contracts that producing companies draw up with Transneft specifying the amount and quality of crude to be carried, starting and final points of shipment, routes, and terms and schedule of payments. Quarterly and monthly allotments and quotas are calculated using the oil companies' certificates of their own annual production. Companies dissatisfied with their quotas can apply for additional shipments on a carrying availability basis. Producers who find themselves with surplus capacity can loan, transfer or sell it based on their own consideration.

The mechanism for transactions involving the Transneft transport network is basically the following: designated companies purchases oil at the domestic price, exports it using Transneft capacities, resells it abroad at the world price and shares the profit with the state accordingly.

Transneft thanks to its broad trunk-lines network holds a monopolistic position, covering oil supplies within CIS and handling more than 95 % of crude oil exports. Regionally Transneft is subdivided into several operating companies: - The Urals-Siberian Trunk Pipeline Company (TPC); - The Middle Volga TPC; - The Upper Volga TPC; - The North and Northwest Siberian TPC; - The Northern TPC; - The Black Sea TPC; - and The Caspian-Caucasus TPC.

In response to pressures to boost export route access, in September 1999, Transneft's Board of Directors adopted "The Concept for Future Development of Trunk Pipelines in Russia" for the year 2000. The main goal of this program is to create new and further develop existing, economically viable export routes, as well as to attract investment for the development of Russia's oil sector to satisfy demands of Russian and foreign oil producers in carrying crude to export markets.

Transneft's pipelines can be classified into three major groups: export, interregional, and intraregional. Export pipelines are the most loaded. Interregional trunk pipelines are vital for domestic market, with their strategic importance for rerouting crude flows. They include Surgut-Polotsk, Kholmogory-Klin, NKK, Ubkua, Omsk - Irkutsk, Ust - Balyk - Omsk, Druzhba-1, Druzhba-2, Samara - Lisitchansk, Samara - Tikhoretsk, and Andzhero-Sudzhensk - Omsk. Intraregional networks are important for local producers and refineries. These intraregional pipelines are concentrated mostly (although not exclusively) in the Volga region, within republics such as Bashkortostan and Tatarstan, where large oil deposits have coexisted with fairly large population centers.

<<http://www.bisnis.doc.gov/bisnis/country/000818rspipetrans.htm>>,
<<http://www.slavweb.com>>,
<<http://www.eia.doe.gov/emeu/cabs/russia.html>>