



Enerji Piyasaları ve Politikaları Enstitüsü
Institute for Energy Markets and Policies

Can Russia Succeed in Energy Pivoting to Asia?

DR. ELENA SHADRINA

(Meiji University)

Contents

1. Introduction

2. Russia's Energy Policy Transformations: Eastern Pivot

2.1. Russia's Asian Policy: Rationale, Objectives and Instruments

2.2. Oil and Gas Production in East Siberia and the Far East

2.3. Russia's Energy Trade with Northeast Asian Countries

3. Prospects for Russia's Greater Role in Northeast Asian Energy Markets

3.1. Institutions for Russia-Northeast Asia Energy Cooperation

3.2. Russian Oil and Gas Actors and Interests

3.3. Northeast Asian Countries' Energy Policy Transformations: Impact on Demand for Russia's Supplies

4. Conclusions and Policy Implications

1. Introduction

Diversification of energy export has become one of the most remarkable trends in Russia's energy policy. What makes this diversification especially noteworthy is the fact that it implies not a mere geographical re-orientation of the energy flows - away from the European and towards the Asian markets - but involves considerable structural changes across a broad set of Russian energy policy issues.

Russia started considering the possibility for oil and natural gas supplies to Asia since the early 1990s (Eder et al. 2009; Henderson 2011). More discernibly, the idea of Russia's energy export diversification as one of the goals of the national energy policy surfaced in the early 2000s (Shadrina 2010). This target was emphasised more clearly in the Energy Strategy 2030 endorsed in 2009. That year, the second Russia-Ukraine transit crisis happened, energy demand in Europe declined over a severe economic slump and the EU adopted the Third Energy Package (TEP), which *de jure* banned Gazprom's business model in Europe (Yafimava 2013).

The new Russia's Energy Strategy until 2035¹ is being prepared in the environment of tightening economic sanctions² imposed by the EU, US and other nations against Russia over the latter's stance in the Ukrainian conflict, deepening economic recession in Russia (additionally worsened by the sharp fall in oil and other natural resources prices) and progressing regulatory reforms in Russia's principal oil and natural gas importer – the EU - towards harmonised energy market institutionalised in the form of the Energy Union.³ Widening institutional divergence with the EU over energy governance have already resulted in a noticeable decline in the bilateral energy relations (Shadrina 2014a, Henderson and Mitrova 2015). Once the EU regulatory reforms are fully implemented, Russian energy suppliers will face drastically different business environment in which they are predetermined to play a smaller role. Seen in this light, Russia's expedited pivoting to Asia appears to be entirely rational.

As Russia turns to Asia, it is worth examining its Asian energy policy in-the-making and assess its validity. The report illuminates recent transformations in energy policy of Russia vis-à-vis Northeast Asia (NEA).⁴

Russia's prospects for larger energy cooperation with Japan depend on the latter's demand for fossil fuels, which is closely linked to the issue of nuclear energy resumption; the potential for indigenous production through renewable energy development, as well as the progression in the production of methane hydrate; and the possibilities for other supplies in the Japanese market, first of all, of North American LNG. The disparities between Russia and Japan over the long-standing territorial issue and more recently Japan's stance on the Western

¹ Энергетическая Стратегия Российской Федерации на период до 2035 года. Проект. Министерство Энергетики Российской Федерации. Москва. 2014. <http://minenergo.gov.ru/upload/iblock/621/621d81f0fb5a11919f912bfa3248d6.pdf>

² Санкционные списки против российских граждан и компаний. RiaNovosti <<http://ria.ru/politics/20140718/1016514535.html>>; Санкции в отношении России. RiaNovosti. 31 July 2015 <http://ria.ru/trend/eu_russia_sanctions_14032014/>; and Ukraine-related Designations; Sectoral Sanctions Identifications. U.S. Department of the Treasury. July 30, 2015 <<http://www.treasury.gov/resource-center/sanctions/OFAC-Enforcement/Pages/20150730.aspx>>

³ "Energy Union Package." European Commission. Brussels. 25 February 2015 <http://ec.europa.eu/priorities/energy-union/docs/energyunion_en.pdf>

⁴ There is no agreed vision on the geographical contour of NEA. In most instances, NEA as a whole encompasses the People's Republic of China (China), Japan, the Democratic Republic of Korea (the DPRK), the Republic of Korea (Korea), Mongolia and the Russian Federation (Russia). In the present study, Russia's energy relations are analysed with three NEA countries: China, Japan and Korea.

sanctions against Russia are additional factors, which, to an extent, affect the bilateral relations in energy sector.

The scope for Russia's energy cooperation with Korea depends largely on the trends in the country's energy demand, which, in turn, is derivative of the government policy priorities in the segments of renewable and nuclear energy, as well as a result of competition among the external suppliers of energy resources. Although geopolitical factors continue to restrain the possibilities for Korea's pipeline links with Russia, the report argues that the bilateral energy ties can see more vigour.

The largest uncertainties that Russia faces are vis-à-vis China. China's weakening energy demand (a result of decelerating economic growth), certain advances in its ambitious strategy for indigenous energy production (CBM, shale gas and oil, etc.), progress in the domestic gas market liberalisation and so forth, define the country's motivation for energy cooperation with Russia. By the virtue of their geographical location, Russia and China have much greater options for developing versatile energy cooperation; the benefit that they have already started to employ by developing trade in electricity, coal, launching the Eastern Siberia Pacific Ocean (ESPO) oil pipeline, beginning the construction of the Power of Siberia (PoS) gas pipeline and so on. Even so, an appropriate question to ask here is: Does this larger scale and diversity of cooperation indeed signify a strategic partnership? The report aims to demonstrate that it does, yet arguing that strategic thinking is at times in shortage on Russia's side.

It has been noted in the opening lines that Russia's energy diversification is a multidimensional task. Indeed, as Russia's ability to supply NEAs with energy resources depends upon the progress in developing the resource base of Eastern Siberia and the Far East (ESFE⁵), domestic regional economic development is an indispensable element of Russia's Asian energy policy. Furthermore, development of energy resources requires trade, investment, technology and other forms of cooperation. Therefore, seeking to answer the principal question – Can Russia be a better partner to NEAs? – the report also explores whether the existing intergovernmental and issue- and sector-specific bi- and multilateral institutions are instrumental in enhancing Russia's energy cooperation with NEAs.

⁵ Based on <<http://www.vokrugsveta.ru/encyclopedia>>, the report interprets geographical terms as follows: *the Russian Far East* is located east of Siberia and Trans-Baikal, in the valleys of the rivers flowing into the seas and the Pacific Ocean. Administratively, it includes the following constituencies: Amur Oblast, Chukotka Autonomous Okrug, Jewish Autonomous Oblast, Kamchatka Krai, Khabarovsk Krai, Magadan Oblast, Primorsky Krai, the Republic of Sakha (Yakutia) and Sakhalin Oblast. Geographically, the *Eastern Siberia* consists of eastern, mountainous part of Siberia between the Western Siberia and the Russian Far East. It includes the Yenisei River basin, Trans-Baikal region, Yakutia, Taimyr Peninsula and the archipelagos of the Arctic Ocean - the Severnaya Zemlya and the Novosibirsk Islands. Eastern Siberia includes the following constituencies: Eastern Siberia includes such regions as the Republic of Buryat, Irkutsk Oblast', Krasnoyarsk Krai, the Republic of Khakasiya, the Republic of Tuva and Zabaikalje (Trans-Baikal) Krai. *Western Siberia* includes part of Siberia between the Ural Mountains and the Yenisei River valley, stretches from south to north from the steppes of Kazakhstan and the Altai Mountains to the Kara Sea and its bays. Western Siberia includes the following constituencies: Tomsk Oblast, Omsk Oblast, Novosibirsk Oblast, Kemerovo Oblast, Altai Krai, the Republic of Altai, western parts of Krasnoyarsk Krai, part of Sverdlovsk Oblast, part of Chelyabinsk Oblast, Kurgansk Oblast, Khanty-Mansiysky Autonomous District and Yamalo-Nenetsky Autonomous District. *Ural economic region* occupies territory between Russia's European part and Western Siberia; includes the following administrative units: the Republic of Bashkortostan, Perm Krai, Orenburg Oblast, Kurgan Oblast, Sverdlovsk Oblast and Chelyabinsk Oblast. To describe a vast region adjacent to the Northeast Asia, this report uses the term "Eastern Siberia and the Far East", abbreviated as ESFE.

2. Russia's Energy Policy Transformations: Eastern Pivot

2.1. Russia's Asian Policy: Rationale, Objectives and Instruments

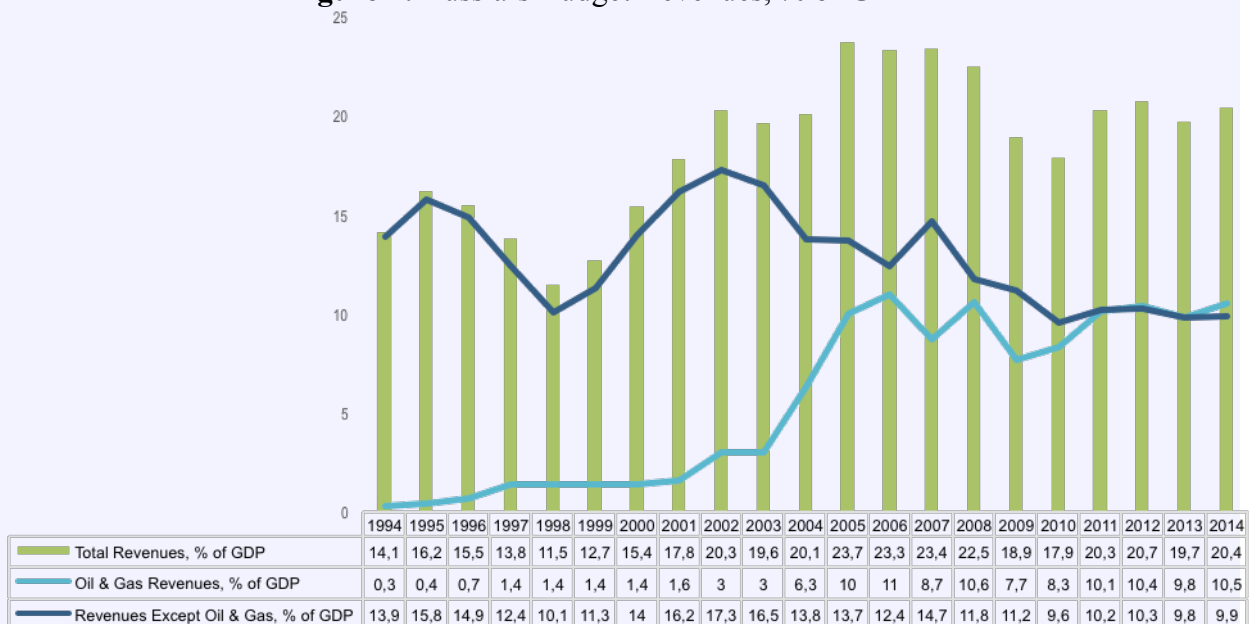
(1) Rationale

To elucidate the rationale behind Russia's re-orientation of Europe-bound pipelines and expansion towards Asia, several specific features of Russia's economy and its export need to be explained.

Russian economy is notorious for its over-dependency on natural resources. Relatively insignificant in the early 1990s, the dependency on energy resources has been growing steadily. To characterise the scale of this problem, the dynamics and structure of budget revenues and exports are examined.

Measured through the share of revenues in Russia's budget, oil and gas revenues exceeded 50 per cent in 2014 (Figure 1). Following more than two-fold drop in the oil prices, however, these revenues shrunk by RUB 2.1 tn (\$ 35 bn) to some 42 per cent in the first half of 2015.⁶ Traditionally, Russia's oil sector has been making larger contributions to the budget revenues than the gas industry. In 2014, the latter accounted for 11.58 per cent of the total oil and gas revenues remaining nearly unchanged compared with 12.29 per cent in 2013 and 10.86 per cent in 2012.⁷

Figure 1: Russia's Budget Revenues, % of GDP



Source: composed based on Исполнение федерального бюджета и бюджетов бюджетной системы Российской Федерации за 2014 год (предварительные итоги). Министерство финансов Российской Федерации. Москва, апрель 2015. сс. 23-24

<<http://www.minfin.ru/common/upload/library/2015/04/main/kniga%202014%20kolleg.pdf>>

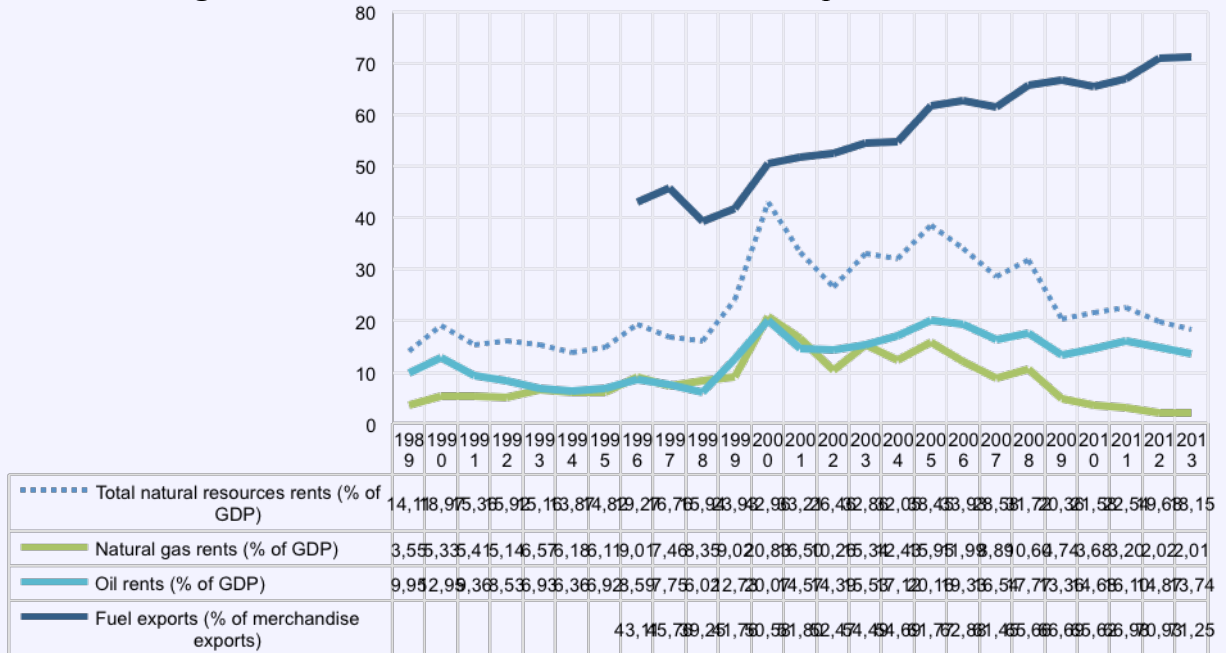
⁶ Нефтяники отбились от Минфина. 28 сентября 2015. OilCapital.ru

<http://news.rambler.ru/head/31462837/?utm_source=facebook&utm_medium=sharing>

⁷ In 2015, Rosneft will pay about \$23 bn less in taxes compared to 2014 because of the oil price collapse; Gazprom will become the largest taxpayer.

Oil and gas constitute large portion of Russia’s exports. Moreover, their share in Russia’s total merchandise exports increased from just over 40 per cent in the early 1990s to over 70 per cent in 2014 (Figure 2). Traditionally, the share of oil and oil products in Russia’s exports has been larger than that of natural gas. That is to say, in 2000, oil accounted for 25.47 and oil products - for 11.00 per cent, while share of gas was 16.77 per cent of the total value of export. By 2014, oil and oil products exports grew to 30.92 and 23.27 per cent, respectively, while the share of gas decreased to 12.15 per cent. In 2014, oil and gas export duties contributed over 64 per cent to the oil and gas sectors revenues, making up over 31 per cent of the total budget revenues. Yet, the share of oil sector duties was larger: 54 per cent against 27.1 per cent of gas. Using the indicator of natural resources rents as a percentage of GDP,⁸ Russia’s oil sector has also been more efficient compared with the gas segment. Lately, the decline in natural gas rents has been especially dramatic.

Figure 2: Russia’s Oil and Gas Rents⁹ and Fuel Exports, % of GDP



Source: composed based on World Development Indicators
<http://databank.worldbank.org/data/reports.aspx?source=2&series=NY.GDP.TOTL.RT.ZS,NY.GDP.PETR.RT.ZS,NY.GDP.NGAS.RT.ZS,NY.GDP.COAL.RT.ZS,NY.GDP.MINR.RT.ZS,NY.GDP.FRST.RT.ZS#>>

High concentration of Russia’s energy exports on one market additionally complicates the problem of export dependency, as the fluctuations in the major importer’s demand create great uncertainties about the suppliers ability to sell already produced volumes. Furthermore, price volatility affects the value of export revenues undermining financial stability of exporters and public budget. To illustrate, the European customers purchase a great share of Russia’s oil exports: 74.6 per cent in 2013 and 68.1 per cent in 2014. While the share of Asia-

⁸ The resource rent of a natural resource is the total revenue that can be generated from the extraction of the natural resource, less the cost of extracting the resource (including a normal return on investment to the extractive enterprise).
⁹ Natural resource rent is the total revenue, which can be generated from the extraction of the natural resource, less the cost of extracting the resource (including a normal return on investment to the extractive enterprise).

Pacific contracts increases in line with the ESFE's greenfields and infrastructure development, in 2014 they still accounted for 30.4 per cent of Russia's oil exports (23.7 per cent in 2013). The recent trend in oil exports is clear: two principal export destinations – Europe and Asia - are being re-balanced. In 2014, oil exports to the European markets declined by 18.7 Mt (by 12.1 per cent) compared to 2013, while deliveries to Asia Pacific grew by 11.5 Mt (23.4 per cent). Most recently, the ratio of capacity utilisation of Europe-oriented oil pipelines was about 70 per cent for the links via Belarus, and zero for the pipelines crossing Ukraine. On the other hand, China-oriented ESPO pipeline was exploited at nearly 80 per cent of its capacity in 2013, and almost 100 per cent in 2014.¹⁰ In the gas segment, however, Russia has no room for manoeuvre, because all Russia's gas export pipelines are Europe-bound and only a small quantity of LNG is currently supplied to the Asian markets from Sakhalin. A result of great miscalculations of the EU's gas demand, Gazprom has developed an excess capacity of some 173 bcm.¹¹ The consequences of a recent decline in Europe-bound exports are dramatic for Russia. Natural gas plays a special role in domestic economy. In order to support vulnerable low-income households and improve the competitiveness of domestic manufacturers, the Russian government regulates gas prices keeping them below the international level. It is the external markets that help Gazprom – the dominant producer and pipeline export monopolist – partially compensate for the production costs and overcome some of the limitations of rather uneconomic nature of the industry. Hence, Russia's pipeline gas export has been traditionally oriented to commercially attractive western markets.

The history of (Soviet) Russian pipeline gas exports to the European markets dates back to the late 1960s, when the first deliveries reached Austria in 1968 (Motomura 2005; Hogselius 2013). By the 2010s, however, various changes, such as the advancement of regulatory reforms in the EU, which prioritise liberalization of energy markets, harmonization of national energy governance systems, adherence to the ideas of import diversification and sustainability, as well as an absolute decline in the EU's energy demand due to its weaker economy, resulted in a smaller room for Russia's energy supplies. Commercial and later on political tensions with major transit partner - Ukraine – have been adversely affecting Russia's relations with the European consumers. Since 2014, economic sanctions against Russian energy companies imposed direct constraints on commercial, technological and financial cooperation with the West threatening, thereby, the prospects for oil and gas projects development (Table 1).

¹⁰ Map at official web-site of Ministry of Energy <<http://minenergo.gov.ru/activity/oilgas/>>

¹¹ Gazprom's export pipelines capacity for Europe is 257 bcm, including 142 bcm via Ukraine and 38 bcm via Belarus, but the actual exports in 2014 were over 110 bcm less than the total capacity.

Table 1: Sanctions-Triggered Changes in Russia's Energy Policy

Type	Measures → Effect	Counter-measures
Trade restrictions (export controls)	Products under the EU's deep-water oil exploration restrictions (Gazpromneftj – Shell, Bazhen; Lukoil – Total, Bazhen, etc.); ¹² US' Arctic, deep water and difficult-to-recover resources (ExxonMobil–RN, Bazhen tight oil, South Kara Sea, etc.) ¹³ => increasing technical and technological limitations	Substitution by domestic supplies ¹⁴ and imports from non-(sanctions)senders
Financial transactions restrictions	Gazprombank, VTB Bank, VEB, Eximbank of Russia, Far East and Baikal Region Development Fund OJSC, Federal Center for Project Finance, etc. => lack of financial resources to fund exploration and production activity	National Wealth Fund (NWF) funding, ¹⁵ re-orientation towards financing from non-senders
Technology transfer restrictions	Gazprom, Gazpromneft, Lukoil, Rosneft, Surgutneftegas => increasing technological insufficiency, especially in the segment of offshore "green fields" and non-traditional reserves	Substitution by domestic supplies and imports from non-senders ¹⁶
Sanctioned energy projects	Yuzhno-Kirinskoye field (Sakhalin-3, Gazprom) ¹⁷	Project put on hold
Industry sector sanction list	Line pipe, oil well drill pipe, mobile drilling derricks, etc.	Substitution by domestic supplies ^{18, 19} and imports from non-senders
Bans on transactions with sanctioned entities	Gazprom, Gazprom Neft, Rosneft, Transneft, Surgutneftegaz, Lukoil, Novatek, SJSC Vankorneft, PJSC Verkhnechonskneftegaz, OJSC Angarsk Petrochemical Company, etc. => limitations for wide-range cooperation with IOCs	Diversification towards non-senders
Travel restrictions for companies' CEOs	Igor Sechin (Rosneft), Arkady, Boris and Roman Rotenbergs (Stroygazmontazh, etc.), Gennady Timchenko (Gunvor), etc. => limitations on companies' transactions	Re-orientation towards non-senders

Source: author.

Under such circumstances, seeking to secure large and potentially growing markets, Russia has drastically accelerated its efforts for export diversification. Especially rapid developments have taken place in gas sector. Russia initiated the re-routing of its traditional pipeline links with Europe and the expansion towards the new markets in Asia. The former involves the construction of four lines of the Turkish Stream (TS), or, and what lately appeared as more likely to happen, only one line to serve Turkey's demand exclusively²⁰; and the Nord Stream-2 (NS-2) to bring Russia's gas directly to Germany.²¹ The latter implies

¹² Дзядко, Тимофей (2015) Total сделала ставку на отмену санкций через три года. *РБК*. 8 июля <<http://top.rbc.ru/business/08/07/2015/559bbd5f9a79471ea340d205>>

¹³ Ткачѳв, Иван, Сухаревская, Алена, Сотникова Ася (2014) США приоткрыли доступ к «трудной» нефти в Сибири. *РБК*. 26 ноября <<http://top.rbc.ru/business/26/11/2014/5474d364cbb20f0b7a090952>>

¹⁴ Импортозамещение обойдется в 1,5 трлн рублей. *Известия*. 2 апреля 2015 <<http://izvestia.ru/news/584888>>

¹⁵ Лалетина, Анна (2015) Правительство на треть урежет расходы на инвестиционные проекты. *Slon.ru*. 2 июня <<https://slon.ru/posts/52239>>

¹⁶ Российская "нефтянка" не может жить на западном обеспечении. *Национальная Ассоциация нефтегазового сервиса*. 12 июля 2015 <<http://nangs.org/news/industry/rossijskaya-neftyanka-ne-mozhet-zhit-na-zapadnom-obespechenii-1055>>

¹⁷ Мордюшенко, Ольга, Барсуков, Юрий (2015) Был Shell да вышел. *Коммерсант*. 10 августа <<http://www.kommersant.ru/doc/2785631>>

¹⁸ Об утверждении плана мероприятий по импортозамещению в отрасли нефтегазового машиностроения Российской Федерации. Министерство Промышленности и Торговли Российской Федерации. Приказ № 645. 16 марта 2015 <<http://minpromtorg.gov.ru/common/upload/files/docs/645.pdf>>

¹⁹ Самофалова, Ольга (2015) Санкции помогут вернуть в Россию производство нефтегазового оборудования. *Взгляд*, 11 марта <<http://www.vz.ru/economy/2015/3/11/733772.html>>

²⁰ As at the time of writing, the prospects of all energy projects between Russia and Turkey are endangered by Turkey's strike on Russia's warplane (24 November 2015), which operated in Syria fulfilling Russia's anti-IS campaign. In retaliation, Russia prepares a wide range of economic sanctions against Turkey.

²¹ Germany and Turkey are the largest and the second large Russian gas importers.

building the Power of Siberia (PoS) and PoS-2, with the probability being high for the second project to be postponed until China sees clearer its western provinces' gas needs. To this, numerous projects for the development of LNG need to be added (Table 2). Combined, these efforts in both – the west and east - dimensions are believed to be instrumental in materialization of Russia's goal of diversification. Yet, sanctions have caused some corrections to the original plans.

Table 2: Russia's Gas Sector under the Triple Challenge²² (as of November 2015)

Company	Targeted Markets	Commenced	High Probability of Implementation	Scrapped* or Post-2020	Developments under Sanctions
Gazprom	East	Power of Siberia gas pipeline	Power of Siberia-2 (Altai) 3 rd train Sakhalin 2 LNG 5 Mt	Vladivostok LNG plant, 5 Mt (→15 Mt) 4 th train Sakhalin 2 LNG	construction of the Power of Siberia started in September 2014 CNPC started its part of the Power of Siberia in Heihe in June 2015 the Power of Siberia's commissioning postponed by 2 years (from 2019 to 2021) the Power of Siberia costs \$55-70 bn possibility to partially finance with \$25bn of CNPC's advanced payment negotiations on Altai (Power of Siberia-2) continue, agreement expected within Q12016 Gazprom and Shell signed agreement on Sakhalin-2 3 rd train on 18 June 2015; Shell is likely to participate in development of US-sanctioned Yuzhno-Kirinskoe gas field Sakhalin-3 project ²³ , which is to start in 2019; 3 rd train – 2021 Gazprom retains monopoly in pipeline sector Gazprom's main strategy - expansion of exports to China
	West		Turkish Stream, 1 line (15.75 bcm), 2018 Nord Stream-2, 1 line (27.5 bcm), 2019 Baltiisky LNG 8Mt ²⁴	South Stream* Nord Stream-2 2 nd line Turkish Stream 2 nd line Turkish Stream 3 rd -4 th lines* Shtokman LNG(15Mt)	Gazprom started and stopped some construction works along the former South Stream route (having spent some \$ 16-17 bn) Gazprom initiated Turkish Stream; invited Botas to join funding of \$17.2 bn (€15.5bn) for the Turkish Stream remained unclear; prospects of Turkish Stream worsened due to Russia-Turkey increased tensions over Syria and uncertainty in Turkey's domestic politics Nord Stream-2: Gazprom and Royal Dutch Shell (together with Germany's E.ON and Austria's OMV) to fund 30% of \$11.2bn (€9.9bn), the rest - through bank loans Baltiisky: FID postponed until 2016
Rosneft	East	(ongoing development of oil deposits to increase exports via China-oriented ESPO)		Dalnevostoc hny LNG Sakhalin-1, 5 Mt (→15 Mt)	Rosneft offered 10% equity in Vankor to CNPC and sold 15% to ONGC Rosneft agreed with BP on 20% equity (approx. \$700m) in Taas-Yuryakh Neftegazodobycha, (JV) to further develop Sredne-Botuobinskoye oil field ²⁵ Rosneft negotiates with Mubadala Petroleum LLC (UAE) to develop Srednebotuobinskoe and Verkhnechonskoe fields ²⁶ Rosneft sought access for its 8 bcm/y gas from Sakhalin-1 to GP infrastructure, but failed affected by sanctions, Rosneft is less likely (compared to the prior to the sanctions) to succeed in its LNG strategy

²² This implies a combination of three groups of factors with negative impact on Russian energy sector, such as western economic sanctions, slump in energy prices and weakened demand for energy resources in traditional and potential markets.

²³ Announced during the 19th Sakhalin Oil and Gas Conference, 28 September – 1 October 2015.

²⁴ Кириян, Петр и Людмила Подобедова «От нашего газа никто не отказывается». РБК. 25 октября 2015
<<http://www.rbcdaily.ru/industry/562949997850750>>

²⁵ Announced during the Saint Petersburg International Economic Forum, 16-18 June 2015

²⁶ Announced during the Eastern Economic Forum, Vladivostok, 3-5 September 2015.

					oil may remain Rosneft's major business in the short-term China is Rosneft's major and growing oil importer
	West and East			Pechora LNG 2.6 Mt (→ 5.2 Mt) with Alltech Group	Rosneft proposed to the Ministry of Energy a plan for restructuring the gas sector, which envisages partial liberalisation of gas export from 2016; price and export liberalisation with some elements of government regulation by 2019-2022; full liberalisation, including pipeline export, by 2022-2025
Novatek	West and East	Yamal, LNG plant 16.5 Mt	Arctic LNG 1, Arctic LNG 2, Arctic LNG 3, each 5.5 Mt, total 16.5 Mt		Novatek concludes 20-yr 3Mt/y contract with Gazprom Marketing & Trading Singapore on 23 January 2015, 23-yr 1 Mt/y contract with France's Engie (f. GDF Suez) on 2 June 2015 and 20-yr 0.9 Mt/y with Shell on 4 June 2015 (previously: Gas Natural (2.5Mt), CNPC (3Mt), Total (4Mt), Novatek Gas & Power (2.86Mt)) Novatek (51.1%) sold 9.9% to China's Silk Road Fund (others: CNPC 20%, Total 20%) on 3 September 2015 probability of JBIC's financing 3 new Arctic LNG export projects approved 13.10.2014 although affected by sanctions Novatek, is likely to proceed with LNG business

Source: author.

(2) Objectives

Following the beginning of the market reforms in Russia, planning at the macro level was effectively abandoned. Whereas the planning techniques appropriate for the socialist economy were no longer suitable, a void of comprehensive approaches to strategic programming and long-term forecasting became obvious. Given the importance of the fuel-energy complex (FEC) for the Russian economy, there was no shortage of the documents envisioning the prospects of the sector's development.²⁷ The problem, however, was that they have regularly failed to hold a reality check and, therefore, were abandoned well before their planning horizons neared. It was not until 2014 that the importance of strategic planning has been accentuated and the objectives for and the logic behind the process of long-term planning have been clarified by a specific law.²⁸ Now, the long-term concepts for Russia's FEC development are incorporated within a multi-tiered system of strategic plans at the level of sectoral planning. The development of FEC, in turn, takes place upon the long-term (visionary) energy forecast²⁹, the energy strategy, the general schemes and programs of modernization and development of industry systems, the regional energy programs, the long-term projections for regional energy markets and energy companies' strategies.³⁰

Russia's principal document for energy sector development is Energy Strategy. As at the time of writing, Energy Strategy till 2035 (ES 2035) is being finalised. A range of the long-term (till 2035) programmes for the development of gas, oil, coal and power sectors,

²⁷ Concept of State Energy Policy in New Economic Situation (Government Resolution № 26, 10 September 1992); Principal Provisions of Energy Strategy of the Russian Federation till 2010 (Government Resolution № 1006, 13 October 1995); Principal Provisions of Energy Strategy of the Russian Federation till 2020 (Government Approval № 39, 23 November 2000); Energy Strategy of the Russian Federation till 2020 (Government Ordinance № 1234-р, 28 August 2003); Energy Strategy of the Russian Federation till 2030 (Government Ordinance № 1715-р, 13 November 2009).

²⁸ «О стратегическом планировании в Российской Федерации». Федеральный Закон. 172-ФЗ. 28 июня 2014 <<http://base.garant.ru/70684666/>>

²⁹ Прогноз развития энергетики мира и России до 2040 года. Институт Энергетических Исследований Российской Академии Наук. Москва. 2014.

³⁰ Кононов, Юрий (2015) *Пути повышения обоснованности долгосрочных прогнозов развития ТЭК*. Новосибирск: Наука.

respectively, are being revised for better coordination with the ES 2035.³¹ Gazprom's Eastern Gas Programme (EGP³²) is also being reviewed accordingly.

The scope of Russia's energy policy objectives is broad, but three areas have been remaining at the focus; these are economic growth and development, regional development and exports development (Table 3).

Table 3: Evolution of Objectives of Russia's Energy Policy

Objectives	Energy Strategy 2020	Energy Strategy 2030	Energy Strategy 2035 ³³ Draft
Economic growth and development	maximised efficiency in energy resource exploitation and in the use of the fuel-energy industry's potential for the purpose of economic growth and improvement of quality of living standards	2020 + sustainable economic growth; creation of an <i>innovative</i> and efficient energy sector meeting the needs of a growing economy and allowing Russia to strengthen its economic status internationally	2030 + development of domestic energy infrastructure (overcoming imbalance in favour of export infrastructure); Improvement of the availability and quality of energy products and services; supremacy of principles of sustainable development in energy governance at corporate and national levels
Regional development	creation of a single energy space through the development of inter-regional markets and infrastructure, optimisation of regional energy demand-supply structure; development of new large gas producing centres in ESFE; development of (domestically oriented) gas infrastructure in ESFE	2020 + coordination between federal energy programmes and regional programmes for socio-economic development; implementation of large-scale innovative export-oriented energy projects in ESFE	2030 + development of a system of indicators for monitoring and analysis of regional energy security ³⁴ of ESFE; prioritised development of energy infrastructure in ESFE with more accentuated focus on domestic/regional needs
Energy export expansion	improvement of competitive position in global energy markets; efficient utilisation of FEC export potential; utilisation of Asia Pacific markets potential (share in export by 2020: 30% (from 3% in 2003), gas – 15%)	<i>adaptation to high volatility</i> of global energy markets through improved competitiveness; geographic and product diversification; development of common Eurasian energy market; increasing role of Asia Pacific markets (about 30% of energy exports in 2030)	2030 + <i>adaptation to increasing competition</i> in new trends in global energy markets; strengthening position in LNG global market; stable energy relationships and development of dialogues with traditional partners; adaptation to structural and institutional changes in European markets; rapid entry to Asia-Pacific markets (by 2035, 42% of Russia's oil, 43% of gas, 39% of total energy exports); enhanced energy dialogue with Asian partners

Source: adapted from Shadrina 2014a.

³¹ For more detail:

<http://www.ngv.ru/news/novye_skhemy_razvitiya_gazovoy_i_neftyanoy_otrasley_budut_podgotovleny_ne_ranee_kontsa_goda_novak/?sp_hrase_id=1378753>

³² Программа создания в Восточной Сибири и на Дальнем Востоке единой системы добычи, транспортировки газа и газоснабжения с учётом возможного экспорта газа на рынки Китая и других стран Азиатско-Тихоокеанского региона. Ministry of Energy of the Russian Federation. Order N 340. 3 September 2007.

³³ The complete version of the Draft of Energy Strategy 2035 was not available at the time of writing (November 2015). The comparison is based upon: Энергетическая стратегия России на период до 2035 года. Проект. Министерство Энергетики Российской Федерации. Москва, 2014. <<http://minenergo.gov.ru/upload/iblock/621/621d81f0fb5a11919f912bfafb3248d6.pdf>> and Энергетическая стратегия России до 2035 года. Аналитический центр при Правительстве Российской Федерации. Москва. Сентябрь 2015 <http://www.minenergo.gov.ru/upload/iblock/5b5/energeticheskaya-strategiya-2035_22.pdf>

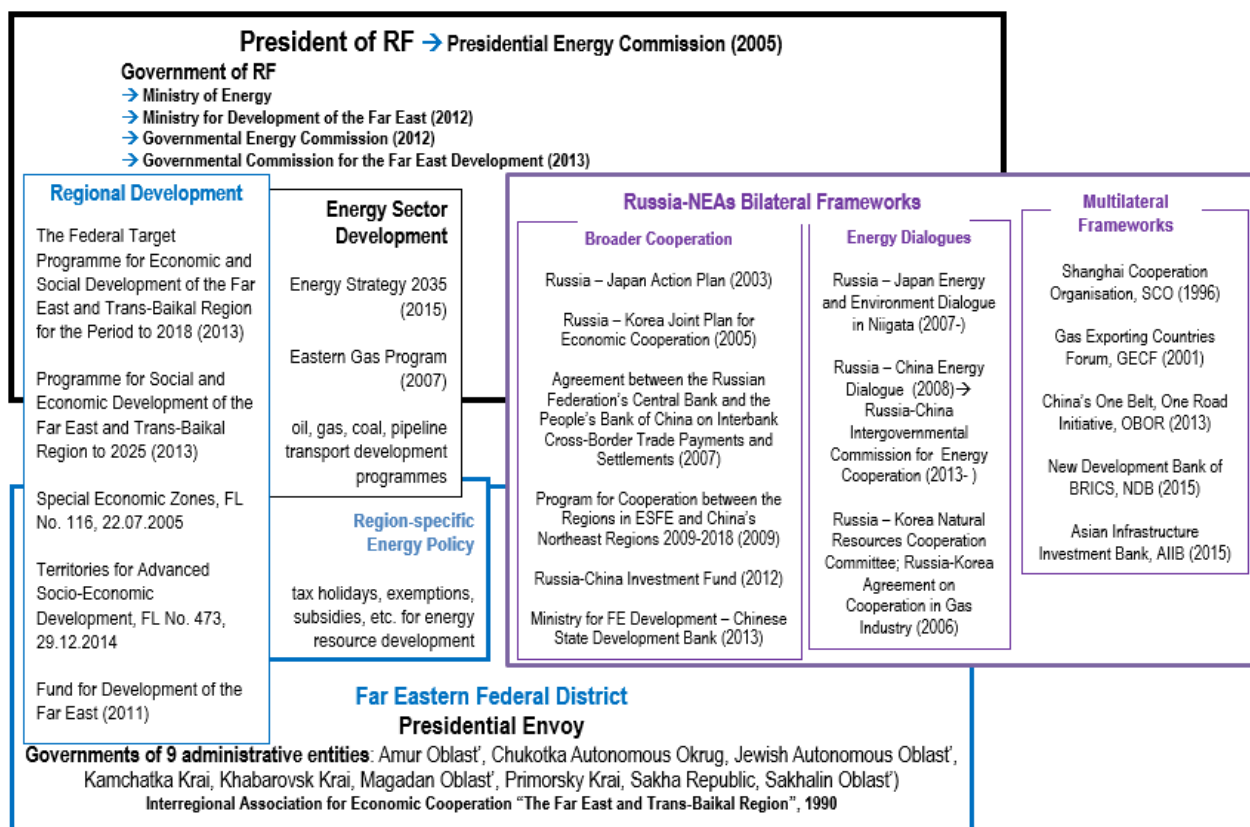
³⁴ Доктрина энергетической безопасности России (концептуальные утверждения) [Doktrina energeticheskoi bezopasnosti Rossii (kontseptualnye utverzheniya)] <www.labenin.z4.ru/Docs/en_bezop_project.doc>

As the Table presents, three consecutive documents – ES 2020 (adopted in 2003), ES 2030 (2009) and Draft 2035 – demonstrate Russia’s adherence to the agenda of socio-economic advancement of the ESFE (the region responsible for the production of energy resources for the Asian markets); the ESFE’s energy sector development; and expansion of Russia’s Asian energy exports.

(3) Instruments

From the start of his third presidential term in 2012, Vladimir Putin has been underscoring the significance of the ESFE for Russia’s geo-political and economic security. President Putin defined the development of Siberia and the Far East as “national priority for the entire 21st century”.³⁵ Concurrently, the official accounts emphasised the task of the ESFE development, and a system of institutions capable of fulfilling the regional development objectives has been gradually constructed (Figure 3) (Horiuchi 2014, Shadrina 2014a,b).

Figure 3: Institutions for Russia’s Energy Policy in Eastern Siberia and the Far East



Source: author.

³⁵ Presidential Address to the Federal Asamble. 13 December 2013 <<http://www.rg.ru/2013/12/12/poslanie.html>> (in Russian) and <<http://eng.kremlin.ru/news/6402>> (in English)

Institutions for Russia’s energy cooperation with NEAs, as Figure 3 demonstrates, can be divided into three tiers at the domestic level: national, regional and sectoral, as well as into two types - bilateral and multilateral - internationally. With the NEAs, Russia has bilateral frameworks for a broader economic cooperation and loosely shaped frameworks for energy cooperation; only with China does Russia have energy dialogue, as well a special committee within the Intergovernmental Commission. Lately, there have been a range of Russia-China initiatives to spur regional and cross-border cooperation between the ESFE and China’s northeast. For instance, the 2009 Programme envisages 250 joint undertakings covering wide range of sectors. In 2012, China and Russia contributed \$1bn each (from their sovereign wealth funds) to the joint Investment Fund and intended to raise additional \$2bn for the investment projects in the CIS (70 per cent of total investment) and China (30 per cent). The 2013 agreement between the Ministry for the Far East Development and the Chinese State Development Bank pledged \$5bn funding to the joint projects. Moreover, dramatically evolved multilateral frameworks (SCO, OBOR, AIIB, NDB, etc.) allow Russia and China to expand the avenues for multifaceted cooperation even further.

In line with the objectives presented above, the instruments for Russia’s Asian energy policy can be described as designed to boost the overall economic development of the ESFE (federal target programmes, special economic zones (SEZs), territories for advanced development (TADs) and so on) and enhance oil and gas production in the ESFE (tax and other incentives) (Table 4).

Table 4: Key Instruments of Russia’s Asian Energy Policy

Principal Focus	Strategic Programming	Investment and Production Promotion
Regional Socio-Economic Development	<ul style="list-style-type: none"> * system of federal and regional institutions (Ministry for Development of the Far East, etc.) * federal target programme and regional programme for socio-economic development of Far East and Trans-Baikal regions (Figure 3) 	<ul style="list-style-type: none"> * Fund for Development of the Far East (2011) * 9 territories for advanced development: Kamchatka, Mikhailovsky (Primorsky krai); Industrial Park Kagalassy (Yakutia), Beringovsky (Chukotsky Autonomous District); etc.; 7 more to be created in 2016-2017 * special economic zones: Free Port Vladivostok
Energy Sector Development	<ul style="list-style-type: none"> * national energy strategy - Energy Strategy 2035 * long-term (to 2035) programmes for gas and gas processing industry, oil and oil processing, coal and power sectors * companies’ programmes, e.g., Gazprom’s EGP 	<ul style="list-style-type: none"> * tax manoeuvre - in order to stimulate oil and gas output, gradual increase of severance tax with simultaneous decrease of export duties * export duties exemptions; * profit tax exemptions; * property tax exemption; * severance tax exemption for oil and gas greenfields in the ESFE to feed the ESPO oil and Power of Siberia gas pipelines * preferential access to infrastructure (power grid and transport) for companies implementing the Power of Siberia

Source: author.

Regional and sectoral (energy) development are complex tasks, which demand multidimensional policy. For example, due to the natural loss and domestic inter-regional migration, the ESFE has been experiencing significant decrease in population since the early 1990s. This aggravated a problem of a lack of skilled labour, which became especially palpable at the commencement of large-scale energy projects. Lately, the issue has been addressed by the energy companies themselves via establishing the training programs and vocational colleges in Sakhalin and Yakutia. The task of improving another important production factor – capital – has been pursued through a range of national and regional

economic forums, such as the Saint-Petersburg International Economic Forum and Eastern Economic Forum in Vladivostok, as well as via the sponsored by energy companies business-oriented conventions, like the Sakhalin Oil and Gas Conference. To consolidate efforts in these two areas, two new agencies - for Investment and Export Promotion and Human Capital Development - were created under the auspices of the Ministry for the Development of the Far East in 2015.³⁶ Financing, especially under the circumstances of western sanctions, is a huge hurdle for regional and sectoral development. The government's allocations through the channels of federal target programmes for the ESFE economic development, as well as the National Welfare Fund resources (about \$80 bn) are disproportionately small compared to the scale of developmental tasks. It was for this very reason that the Fund for Development of the Far East had been inactive for over four years. In 2015, after doubling its capital to RUB 15.5bn (\$0.2bn), the Fund could form a portfolio of projects in the approved TADs. By 2025, the Fund aims to increase its capital to RUB 78bn³⁷ and seeks to expand the scale of co-financing through the collaboration with private investors.

Speaking of energy sector fiscal reforms, under the *tax manoeuvre*,³⁸ the government planned to gradually increase the severance tax while simultaneously decreasing oil export duties (from 42 per cent to 36 per cent to the base rate).³⁹ Because a decrease of the rate of export duty by one per cent results in RUB 37 bn (\$0.6 bn) losses for the Russian budget, it is not surprising that under the new realities of declining export revenues, the expanding budget deficit and the likelihood of massive bankruptcies of energy companies in case the tax manoeuvre proceeds as scheduled,⁴⁰ the government revised the scale and the timing of tax reform.⁴¹ For the year 2016, the government decided to re-balance the tax burden between the oil and gas sectors expecting Gazprom to pay some RUB 114.69 bn (\$1.6 bn) more in the form of severance tax.⁴² Overall, the government deliberates a more tenable design for tax policy. Most recently, there has been a discussion for a *devaluation profit* (as opposed to previously exploited concept of a windfall profit) to be taxed. Indeed, despite the collapse of oil prices by over 50 per cent in the dollar terms the rouble-denominated price of oil dropped by some 12 per cent (as the Russian rouble has lost more than half of its value) and the rouble net revenue in production increased by 8 per cent.⁴³ Lukoil, for instance, credits the

³⁶ Для развития Дальнего Востока создали два новых ведомства. *Дальневосточный Капитал*. 30 Сентября 2015 <http://dvkapital.ru/timezone/dfo_30.09.2015_7436_dlja-razvitiya-dalnego-vostoka-sozdali-dva-novykh-vedomstva.html>

³⁷ ФНБ «по-дальневосточному». *Ведомости*. № 3891, 10.08.2015.

³⁸ For more detail: Управляющий директор компании Vygon Consulting Г.Выгон: "В долларом выражении прибыль нефтяников существенно снизилась, а долговая нагрузка возросла". 30 сентября 2015 <<http://www.interfax-russia.ru/exclusives.asp?id=657136>>; Нетреба, Петр (2015) Антон Силуанов — РБК: «Дешёвая нефть — горькое лекарство, но оно лечит». 1 октября. *РБК* <<http://daily.rbc.ru/interview/economics/01/10/2015/560d62f29a7947ddebdb9b53c>>

³⁹ Основные направления налоговой политики Российской Федерации на 2016 год и на плановый период 2017 и 2018 годов. Министерство Финансов Российской Федерации. Москва. 2015. сс. 20-22 <http://www.minfin.ru/common/upload/library/2015/07/main/ONNP_2016-2018.pdf>

⁴⁰ Фадеева, Алина (2015) Рост налоговой нагрузки на нефтяников приведет к банкротствам нефтесервисов. *Ведомости*. 28 сентября <<http://www.vedomosti.ru/business/articles/2015/09/25/610314-rost-nalogovoi-nagruzki-na-neftyanikov>>

⁴¹ Медведев принял решение не корректировать НДС, будут рассмотрены другие варианты – Тимакова. 28 сентября 2015. OilCapital.ru <<http://www.oilcapital.ru/industry/274850.html>>

⁴² Кабмин вносит в Госдуму поправки о повышении НДС на газ для "Газпрома" на 36,7%. 10 октября 2015 <<http://tass.ru/ekonomika/2335482>>

⁴³ Based on Russia's Central Bank data, Urals average price was about \$100/b in October 2013 against about \$50/b in October 2015; exchange rate was RUB 32 per one dollar in October 2013 against RUB 62 per one dollar in October 2015.

devaluation factor for the improved economics of production. Its marginal operational costs declined from \$5-7/b to \$2.8/b and the company assesses its break-even point at \$24/b.⁴⁴

On the other hand, to enable the Asian vector, the Russian government has extended generous fiscal incentives⁴⁵ to Rosneft and other oil companies and more recently to Gazprom.⁴⁶ Starting from January 1, 2015, there is, for instance, a zero severance tax rate for natural gas from the fields in Yakutia and Irkutsk Region for 15-year term since the start of commercial production with further severance tax growth from 0.1 to a full rate during ten years. There is also zero corporate property tax rate for gas trunklines and constructions being their essential process part, gas production facilities, helium production and storage facilities located in Yakutia, the Irkutsk and Amur Regions until 1 January 2035. The total value of tax exemptions associated with the implementation of the PoS pipeline is estimated at \$1 bn (Shadrina 2015a).

Energy sector can be credited with certain contribution to the regional economic development. The case of the production sharing agreements (PSA) is particularly illustrative. Cumulatively, Sakhalin-1, Sakhalin-2 and Khariyaga PSAs invested \$26.8bn, \$34.4 bn and \$3.8bn, respectively. Throughout the whole history of their operation, the PSAs generated budget revenues of \$32.8 bn as of 2015, of which \$20.6 bn was transferred to the federal budget and \$12.8 to the regional budgets (Sakhalin Oblast and Khanty-Mansiisky Autonomous Okrug); of this, \$8.4 bn was transferred in 2014 alone. The Sakhalin-1 (Chaivo, Odoptu and Arkutun Dagi fields) generated \$12.5 bn, the Sakhalin-2 (Piltun Astokhskoe and Lunscoe fields) - \$17.2 and the Khariyaga (Khariyaga field) - \$ 3.1 bn.⁴⁷ In 2014, the Sakhalin-2 transferred \$2.2 bn to the budget of Sakhalin Oblast, contributing over 50 per cent to the region's revenues. Contribution of the Sakhalin-1 is assessed at \$1.3 bn. Fulfilling the requirement of local component, the projects outsourced contracts of \$22.6 bn (including \$4.2 bn, or 86 per cent of total value, in 2014 alone) to Russian companies. On average, the domestic component in PSAs' expenditures is reported at 69.5 per cent for Sakhalin-1 and 61 per cent for Sakhalin-2 (95.1 per cent for Khariyaga in 2014). The share of Russian work force in Sakhalin-1 is assessed at 82 per cent, Sakhalin-2 - 87 per cent and Khariyaga – 80 per cent.⁴⁸ Additionally, in the fulfilment of respective provisions of the PSA, Sakhalin Energy provided 1.5 bcm of natural gas for the local needs.

2.2. Russia's Plans for Production and Export of Oil and Gas in Eastern Siberia Far East

As only 6 per cent of the continental shelf and 7.3 per cent of the onshore area were covered by geological exploration, the data on oil and gas reserves in the ESFE are inexact. According to the Russian Minister of Energy Alexander Novak, the ESFE possesses 16.2 per

⁴⁴ Старинская, Галина; Серов, Михаил (2015) «Мы не привлекаем китайские кредиты – это самые дорогие кредиты в мире». Интервью с Вагитом Алекперовым. *Ведомости*. № 3911. 07.09.2015. <http://www.vedomosti.ru/business/characters/2015/09/07/607751-kitaiskie-krediti-samie-dorogie-v-mire#/galleries/140737488839623/normal/1>

⁴⁵ For more detail see: Global Oil and gas Tax Guide 2015. EY. pp. 512-527.

⁴⁶ On the Amendments to the Law of the Russian Federation on Subsoil Resources and Individual Legislative Acts of the Russian Federation. Federal Law No. 364-FZ. November 30, 2011.

⁴⁷ Доходы России от СПП на конец 2014 года составили \$32,8 млрд. *Профиль*. 15.10.2015 <<http://www.profile.ru/economics/item/100352-dokhody-rossii-ot-srp-na-konets-2014-goda-sostavili-32-8-mlrd>>

⁴⁸ Мельников, Алексей. Мечты сбываются. *Профиль*. 27 октября 2015 <<http://m.profile.ru/economics/item/100669-mechty-sbyvayutsya>>

cent of Russia's total gas and 13 per cent of its total oil reserves.⁴⁹ Gazprom assesses the ESFE's gas resources at 52.4 tncm on-shore (30 per cent of Russia's total on-shore resources) and 14.9 tncm off-shore (over 20 per cent of the total off-shore reserves).⁵⁰ Rosneft estimates the total gas reserves in the continental part of the ESFE at 8.7 tcm and the resources at 33.2 tcm, which, according to Rosneft's CEO Igor Sechin, allow for 300 bcm of gas exports to the Asia-Pacific region annually.⁵¹

(1) Energy Strategy

The Energy Strategy 2035 (ES 2035) draws two scenarios - conservative and target – for oil and gas output in Russia (Tables 5 and 6).

Unless the domestic and foreign demand favours a larger output, oil production is projected to be maintained at the current level of 525 Mt through 2035 (Table 5). However, a re-balancing of production capacity between the traditional oil producing regions and the ESFE is anticipated, so that the latter will increase its output by about 60 Mt or two-fold.⁵² In 2030-2035, oil export is projected at 274 Mt (increase by about 40 Mt compared with 2014). Export to the Asian markets is estimated to double reaching 110 Mt or nearly 43 per cent of Russia's total oil exports from 30.4 per cent in 2014.⁵³ Rosneft's CEO Igor Sechin assesses the company's potential to ship over 80 Mt annually to China alone by 2038.⁵⁴ To make this possible, Transneft expands the ESPO-1 (to Skovorodino) and the ESPO-2 (to Kozmino) ahead of schedule: the two phases will reach their projected capacity of 80 Mt/y and 50 Mt/y, respectively, by 2020 instead of originally planned 2030.⁵⁵

Table 5: Key Parameters of the Energy Strategy 2035 on Oil

Indicator	2014	2020		2025		2035	
		conservative	target	conservative	target	conservative	target
Total Production, Mt, including	525	516	525	505	525	476	525
North-West	28	35	35	31	31	28	34
Trans-Volga	115	108	108	97	97	79	79
South and Crimea	10	18	18	17	17	15	15
North Caucasus	2	2	2	1	1	1	1
Ural	299	246	249	238	248	238	269
Western Siberia	12	13	13	13	13	9	9
Eastern Siberia	35	82	67	70	79	74	79
Far East	23	33	33	39	39	33	39
Export, Mt	223	239	252	257	266	242	276

Source: Энергетическая стратегия России до 2035 года. Аналитический центр при Правительстве Российской Федерации. Москва. Сентябрь 2015. <http://www.minenergo.gov.ru/upload/iblock/5b5/energeticheskaya-strategiya-2035_22.pdf>

⁴⁹ **Воронцова, Надежда (2015)** Нефтегазовый Год: Введение в 2014 году против России западных санкций только ускорило ее разворот на Восток. *Дальневосточный Капитал*. 30 Сентября 2015 <http://dvkapital.ru/specialfeatures/dfo_30.09.2015_7425_neftegazovyj-god-vvedenie-v-2014-godu-protiv-rossii-zapadnykh-sanktsij-tolk-uskorilo-ee-razvorot-na-vostok.html?print>

⁵⁰ Gazprom's web-site <<http://www.gazprom.ru/about/production/projects/east-program/>>

⁵¹ Сечин, Игорь (2015) Oil as a Commodity: Demand, Availability and Factors Affecting Conditions and Prospects of the Market. Доклад Председателя Правления ОАО «НК «Роснефть» на Конференции «FT Commodities - The Retreat», Сингапур, 7 сентября 2015 <http://www.rosneft.ru/attach/0/55/85/presentation_07092015.pdf>

⁵² Цены на нефть могут рухнуть до 20 долларов. *Независимая Газета*. 14.09.2015 http://www.ng.ru/economics/2015-09-14/1_aravia.html

⁵³ Энергетическая стратегия России до 2035 года. Аналитический центр при Правительстве Российской Федерации. Москва. Сентябрь 2015. http://www.minenergo.gov.ru/upload/iblock/5b5/energeticheskaya-strategiya-2035_22.pdf

⁵⁴ **Воронцова, 2015.**

⁵⁵ Клименко, Олег (2015) В Приморье порт Козьмино доработался до бенчмарка. *Дальневосточный Капитал*. 22 Апреля <http://dvkapital.ru/companies/dfo_22.04.2015_6973_v-primorje-port-kozmino-dorabotalsja-do-benchmarka.html>

In the gas segment, the ES 2035 envisages an increase of output by 29-39 per cent to 821-885 bcm. Domestic consumption is projected to grow by 17-24 per cent to reach 542-571 bcm, while exports is anticipated to rise by 35-52 per cent.

Table 6: Key Parameters of the Energy Strategy 2035 on Gas

Indicator	2014	2020		2025		2035	
		conservative	target	conservative	target	conservative	target
Total Gas Production, bcm, including	639	650	723	743	853	821	885
European basins	47	53	52	50	55	47	52
Western Siberia	546	544	606	592	679	650	683
Eastern Siberia and Far East	41	47	57	89	106	111	135
Other	6	6	9	12	13	13	14
Export, bcm	209	184	244	240	324	282	317
LNG export, % to total export	7	8	19	17	23	23	24
Share of Asia Pacific in Gas Exports, %	7	8	19	32	38	42	44

Source: Энергетическая стратегия России до 2035 года. Аналитический центр при Правительстве Российской Федерации. Москва. Сентябрь 2015. <http://www.minenergo.gov.ru/upload/iblock/5b5/energeticheskaya-strategiya-2035_22.pdf>

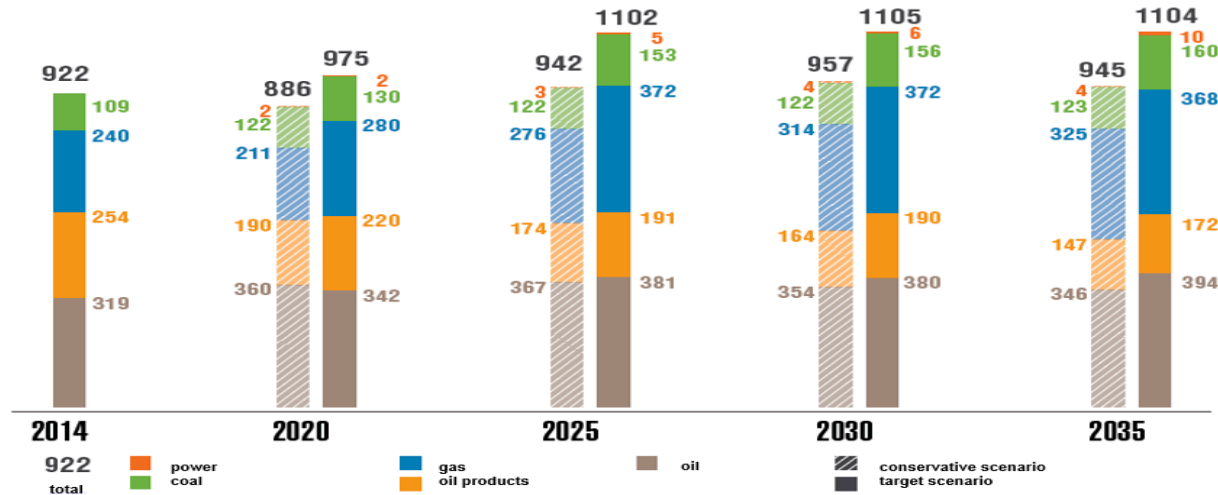
In 2035, export to Europe is anticipated at 175 bcm, which is comparable with the level of 2013.⁵⁶ On the other hand, the CIS countries' imports are projected to decline to 20-30 bcm. Exports to Asia, on the contrary, is expected to grow significantly: to 128 bcm via the pipelines and 74 bcm (54 Mt) in liquefied form. Combined, the share of Asian markets is expected to exceed 40 per cent of Russia's total gas exports. However, by 2035 the ESFE is still projected to produce only about 14 per cent of gas while the Western Siberia's share is estimated to be at nearly 80 per cent. This means that Asian markets are likely to be supplied by the West Siberian gas.⁵⁷

In either of the ES 2035 scenarios, gas is expected to gain larger share in Russia's energy exports (Figure 4).

⁵⁶ Старинская, Галина; Серов, Михаил; Песчинский Иван (2015) Газу нужна либерализация. *Ведомости*. № 3905, 28 августа 2015. <http://www.vedomosti.ru/business/articles/2015/08/28/606622-minenergo-dorabotalo-energostrategiyu-do-2035-g>

⁵⁷ Энергостратегия: добыча газа к 2035 году достигнет 821-885 млрд кубов. 17 сентября 2015 <OilCapital.ru. <http://m.oilcapital.ru/industry/274312.html>>

Figure 4: Russia's Energy Export, Mt of fuel equivalent⁵⁸



Source: Энергетическая стратегия России до 2035 года. Аналитический центр при Правительстве Российской Федерации. Москва. Сентябрь 2015. <http://www.minenergo.gov.ru/upload/iblock/5b5/energeticheskaya-strategiya-2035_22.pdf>

It needs to be noted, however, that the weakened energy prices and insufficient financial resources of the government and energy businesses are projected to result in some 20 per cent decline in investments by the former and some 10 per cent cuts by the latter in 2015. The cuts hamper the implementation of the approved geological exploration programmes, which almost unavoidably will affect Russia's output of energy resources in the mid-term.

(2) Eastern Gas Programme

As oil production in the ESFE has started earlier and advanced further compared to the development of gas, it seems necessary to examine more closely the progression in the gas sector. Originally, the plan to develop the ESFE's gas resources was prepared by Gazprom in its ambitious EGP in 2007 (Map 1).

⁵⁸ 1 tonne of Russian fuel equivalent equals to 0.7 tonne of oil equivalent (toe). See conversion chart: <http://www.convert-me.com/en/convert/energy/rusfeu.html>

Map 1: Gazprom's Eastern Gas Programme



Source: Henderson and Mitrova, 2015: 23.

The EGP envisages gas output at over 160 bcm annually by 2030 (from 8 bcm in 2006)⁵⁹ from four centres: Krasnoyarsk, Irkutsk, Yakutia and Sakhalin. Upon their development, these centres are projected to be connected to the Unified Gas Supply System (UGSS). Initially designed as domestically-oriented, the Sakhalin–Khabarovsk–Vladivostok and the Yakutia–Khabarovsk–Vladivostok gas pipelines were later decided to become the parts of the transport network enabling future pipeline gas exports to China. While the Sakhalin centre is already at a rather advanced stage, the largest two – Irkutsk and Krasnoyarsk – are yet to see their development (Table 7). The Western sanctions and a weaker market position in Europe tightened Gazprom's financial restraints. The company has serious challenges in financing EGP, for which it planned RUB 57.6 bn (\$0.9 bn) of investment in 2015 and RUB 279.5 bn (\$4.2 bn) in 2016. Yet, Gazprom was forced to reduce its 2015 investment program for the PoS pipeline from RUB 30.98 bn (\$ 0.5 bn) to RUB \$19.28 bn (\$ 0.3 bn).⁶⁰

Table 7: Four Gas Production Centres in Eastern Siberia and the Far East

Gas Production Centre – Main Gas Field	Reserves, C1 + C2, tcm		Peak Production, Mt	
	Gas	Condensate	Gas	Condensate
Sakhalin	0.799	116.4	21.5	5.05
Yakutia – Chayandinskoe	1.4	22.1	25	0.4
Irkutsk – Kovyktinskoe	2.5	85.7	35.3	1.9
Krasnoyarsk – Sobinskoe	0.154	8.3	n/a	n/a

Source: Gazprom holds Investor Day in Asia for first time ever. 5 February 2015.
<http://www.gazprom.com/press/news/2015/february/article217413/>

⁵⁹ The Eastern Gas Programme (EGP) is undergoing revision; the targets are as defined in the earlier version published at <http://bestpravo.ru/rossijskoje/rx-normy/r9n.htm>

⁶⁰ «Газпром» резко снизил расходы на «Силу Сибири». ГазетаRu. 20 ноября 2015
http://m.gazeta.ru/business/news/2015/11/20/n_7914095.shtml

The exploitation of gas resources in the ESFE is underpinned by the notion of sustainability, which implies that natural gas and associated resources need to be developed efficiently.⁶¹ Insignificant local demand for gas, and even more so large reserves of helium in the Irkutsk centre (with the Kovyktinskoe being the largest field), Yakutia centre (Chayandinskoe filed) and Krasnoyarsk centre (Sobinskoe filed) have caused long delay in the development of gas deposits.⁶² Complex development of gas resources, including helium, requires constructing a processing facility. Construction of such, of annual capacity of about 60 mcm of helium, started in October 2015 to become operational by 2025. To fulfil its contractual obligations for the China-directed PoS, Gazprom is investing RUB 18 bn (\$0.3 bn) in 2015 and RUB 12.1 (\$0.2 bn) in 2016-2018 in the development of the Chayandinskoe field. By 2030, Gazprom also plans to develop the Verkhnevilyuchanskoe, Srednebotuobinskoe, Srednetyungskoe and Sobolokh-Nedzhelinskoe fields in Yakutia. The beginning of the development of the Kovyktinskoe field is planned for 2020.

Massive development of new oil and gas deposits in the ESFE may allow Russia to diversify its energy exports. Russia's Minister of Energy Alexander Novak foresees the share of Asian consumers in Russia's overall energy exports (energy resources and power) to reach 39 per cent by 2030.⁶³

2.3. Russia's Energy Trade with Northeast Asian Countries

(1) Russia's Oil Export

Over the past decade, oil exports to NEA have increased dramatically (Figure 5). Since the early 2000s, Yukos has been expanding exports to China by railway, then Rosneft continued the deliveries gradually augmenting the volumes via railway until the completion of the Daqing Spur of the ESPO pipeline in 2010. Henceforth, Rosneft's exports have been growing steadily, parallel to the outputs from the greenfields in the ESFE. In 2015, Russia became the second largest oil supplier to China (following Saudi Arabia and surpassing Angola).⁶⁴ Rosneft strives eagerly to expand exports to the Chinese market further, seeking to augment its supplies to 37 Mt by 2018⁶⁵ and 50 Mt/y by 2020.⁶⁶ Exports to Japan and Korea have been also on the rise, first owing to the shipment from Sakhalin and since late 2009 with addition of oil shipped from the port of Kozmino. In 2014, 37 per cent of oil from Kozmino went to Japan, 25 per cent – to China and 17 per cent – to Korea. From Prigorodnoe, Sakhalin Energy shipped nearly 40 per cent of oil to China.⁶⁷

⁶¹ Суходолов, Яков (2014) Реализация восточной газовой программы и перспективы освоения газовых ресурсов Восточной Сибири. *Известия Иркутской государственной экономической академии*. № 6 (98), сс. 63–71.

⁶² Концепция развития гелиевой промышленности России. Проект. Москва. 2014.

⁶³ <<http://minenergo.gov.ru/activity/gas/>>

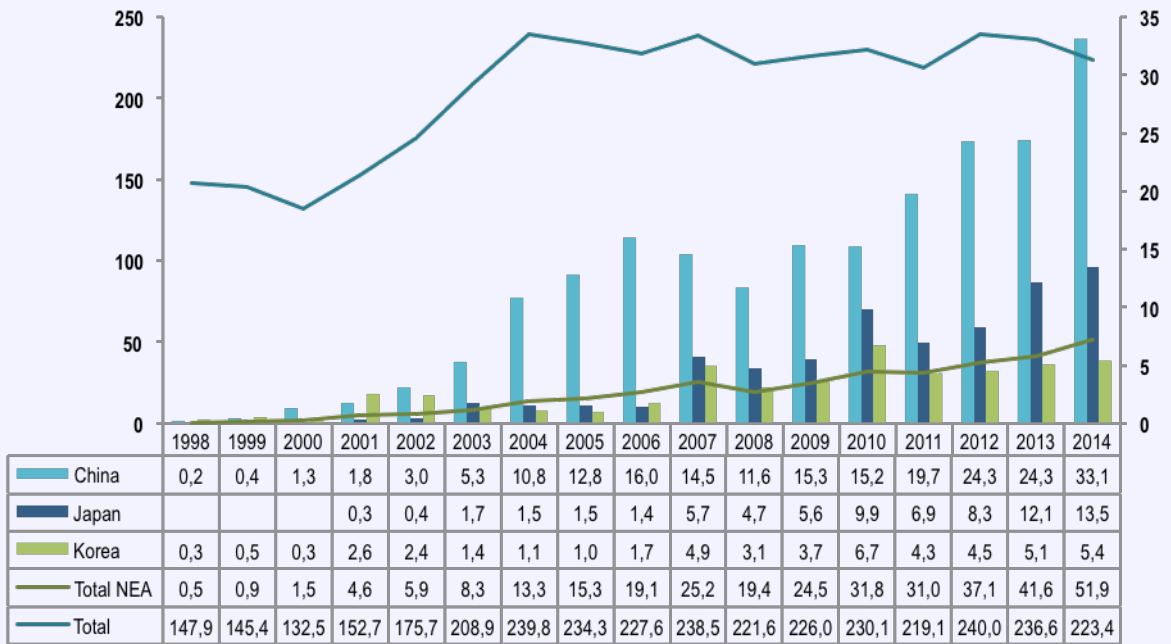
⁶⁴ Saudi Oil Supply Outpaces Rivals in Grab for Record China Demand. Bloomberg. 22 May 2015 <<http://www.bloomberg.com/news/articles/2015-05-22/saudi-oil-supply-outpaces-rivals-in-grab-for-record-china-demand>>; Russia Pips Saudi Arabia in Race to Grab China Oil Market Share. Bloomberg. 23 June 2015 < <http://www.bloomberg.com/news/articles/2015-06-23/russia-pips-saudi-arabia-in-race-to-grab-china-oil-market-share>>

⁶⁵ Russia Seen Extending Oil-Sales Lead With Second China Pipeline. Bloomberg. 1 July 2015 <<http://www.bloomberg.com/news/articles/2015-07-01/russia-seen-extending-oil-sales-lead-with-second-china-pipeline>>

⁶⁶ Кризис на исходе. *Эксперт*. № 40, 2015. сс. 28-35.

⁶⁷ **Воронцова, Надежда (2015)** Нефтегазовый Год: Введение в 2014 году против России западных санкций только ускорило ее разворот на Восток. *Дальневосточный Капитал*. 30 Сентября 2015 <http://dvkapital.ru/specialfeatures/dfo_30.09.2015_7425_neftegazovyy-god-vvedenie-v-2014-godu-protiv-rossii-zapadnykh-sanktsij-tolkoskorilo-ee-razvorot-na-vostok.html?printr>

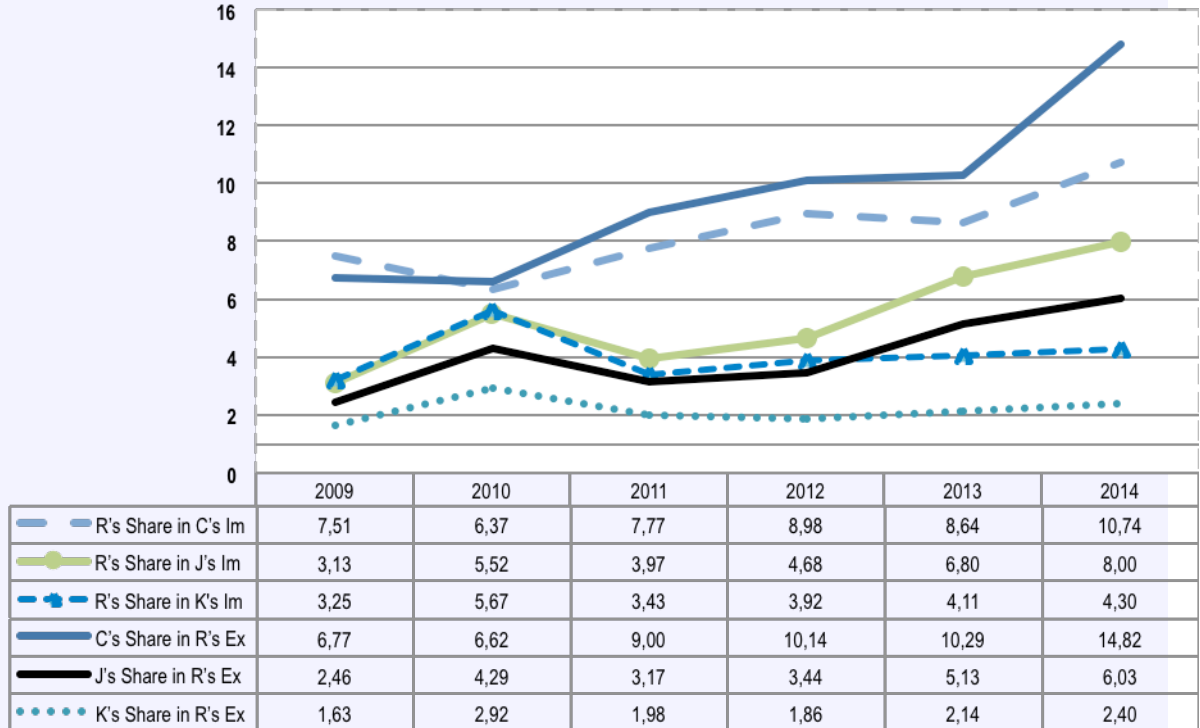
Figure 5: Russia's Oil Export to Northeast Asia, Mt
(Total and Total NEA – left-hand axis)



Source: author, based on data from <<http://comtrade.un.org/db>>; <http://www.trademap.org/Bilateral_TS.aspx>

Russia's dependency on NEAs importers, especially on China, has been growing progressively (Figure 6). Cumulatively, the NEA-3 account for over 22 per cent of Russia's total oil exports. NEA-3's reliance on Russia's oil supplies has also increased.

Figure 6: Russia's Oil Exports to Northeast Asia, %



Source: author, based on data from <<http://comtrade.un.org/db>>; <http://www.trademap.org/Bilateral_TS.aspx>

China depends on Russian oil to a higher degree: nearly 11 per cent of imported oil has Russian origin. Taking into account the continuous growth of China's oil imports (17 per cent in 2010, about 7 per cent – in 2011 and 2012, almost 4 per cent in 2013 and nearly 10 per cent in 2014) and the overall size of China's oil imports (the world's largest, as of 2015), China is increasingly attractive market for Russia. Rosneft has been active in expanding oil trade with the Chinese companies (Table 8). Should these plans materialise, China stands to turn into Russia's biggest oil importer. In the past, the largest deals were supported by China's upfront payments, which allowed Rosneft to finance the development of new oil deposits in the ESFE. However, recently some Russian companies have been seeing this scheme as rather disadvantageous both financially and commercially (over the reason of adding more negotiating power to China).

Table 8: Rosneft's Oil Agreements with Chinese Companies

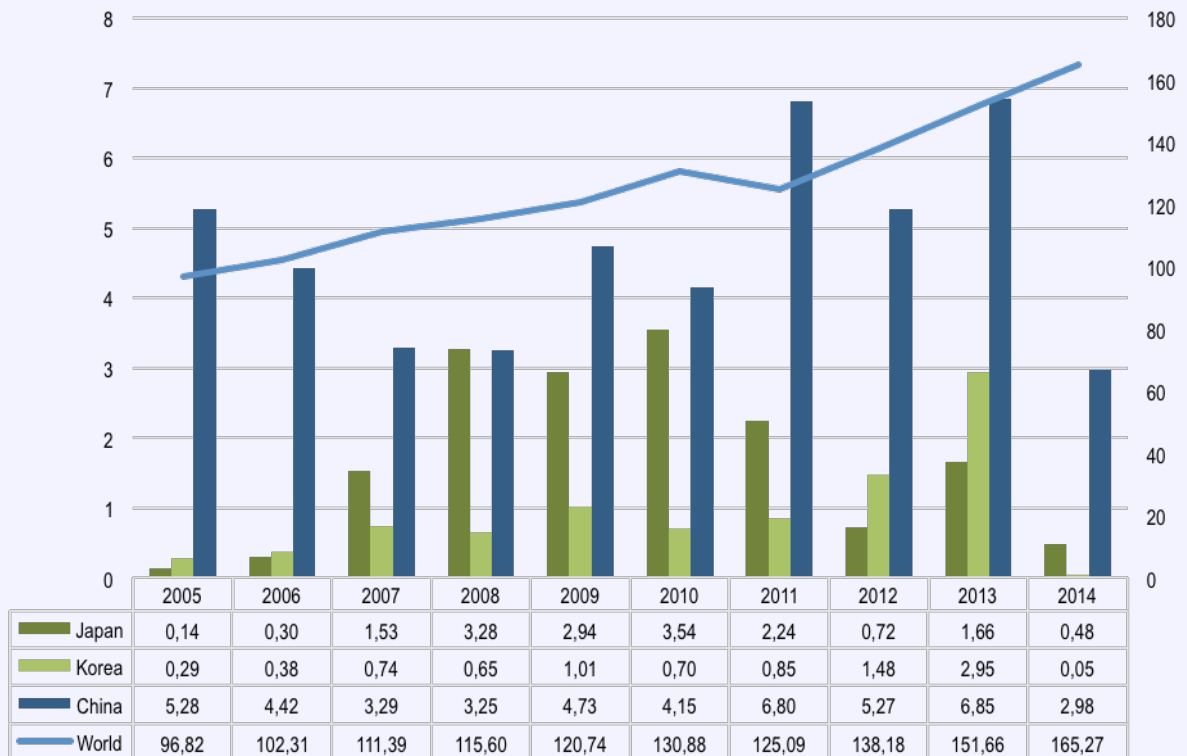
Partner Company	Amount of Oil, Mt/y	Year of Commencement	Duration, yrs	Estimated Value, \$bn
CNPC (via ESPO)	15	2011	20	100
CNPC (for Tianjin refinery)	9	2020		
CNPC (via Kazakhstan)	7	2014		
CNPC (via ESPO-2)	15	2018	25	270
Sinopec (via ESPO)	10	2014	10	80
Total	56			450

Source: author.

Russia's share in Japan's oil imports has been increasing steadily: from just over 3 per cent in 2009 to 8 per cent in 2014. Russia, which has been partially substituting for the sanction-prone Iranian deliveries, became Japan's fourth-largest oil supplier in 2014 (following Saudi Arabia, UAE and Qatar). Japan favours Russia's ESFE oil over the Middle Eastern blends for its higher quality (light oil), shorter delivery time, lower transportation costs and security of the sea lanes. That is why, despite the fact that the incremental effect of the Fukushima factor on Japan's oil imports has largely been exhausted, Japan's diversification of oil imports may lead to Russian supplies growing further. South Korea has also substantially increased its purchases of Russian oil. Similarly to Japan, considerations of geographical proximity, security and quality of oil play a role.

Russia's exports of oil products to the NEAs, on the contrary, are insignificant and continue to decline (Figures 7 and 8).

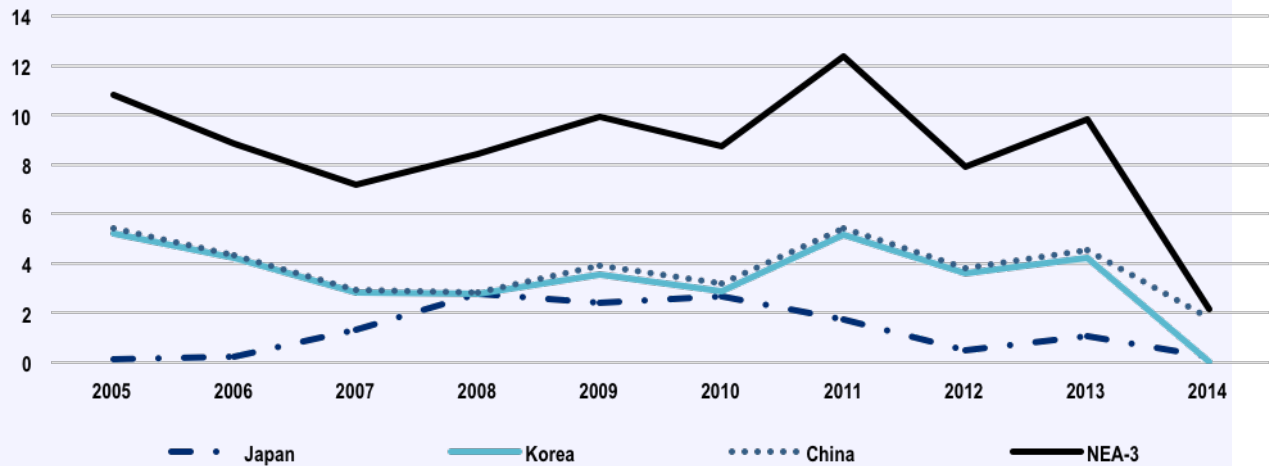
Figure 7: Russia's Export of Oil Products, 2005-2014, Mt (right-hand axis – total)



Source: author, based on data from <http://www.trademap.org/Bilateral_TS.aspx>

The combined share of three NEA countries does not exceed 4 per cent in Russia's total oil products exports. Generally, there have been a decline in these countries' overall oil products imports

Figure 8: Share of Northeast Asian Countries in Russia's Oil Products Export, 2005-2014, %

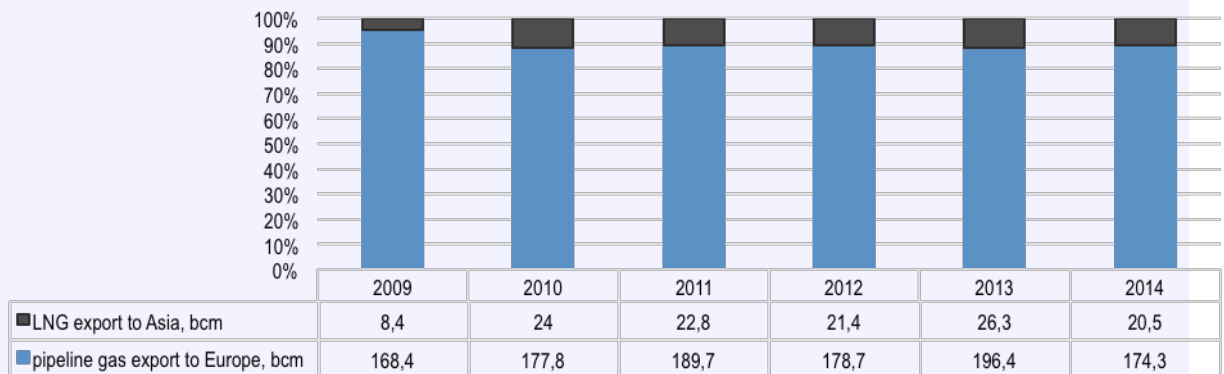


Source: author, based on data from <http://www.trademap.org/Bilateral_TS.aspx>

(2) Russia's Gas Export

As Figure 9 reflects, the European markets dominate in Russia's natural gas exports. While European importers receive Russian gas via the pipelines, Asian buyers purchase exclusively LNG, which is produced at Russia's only LNG plant in Sakhalin.

Figure 9: Composition of Russia's Gas Export, bcm and %

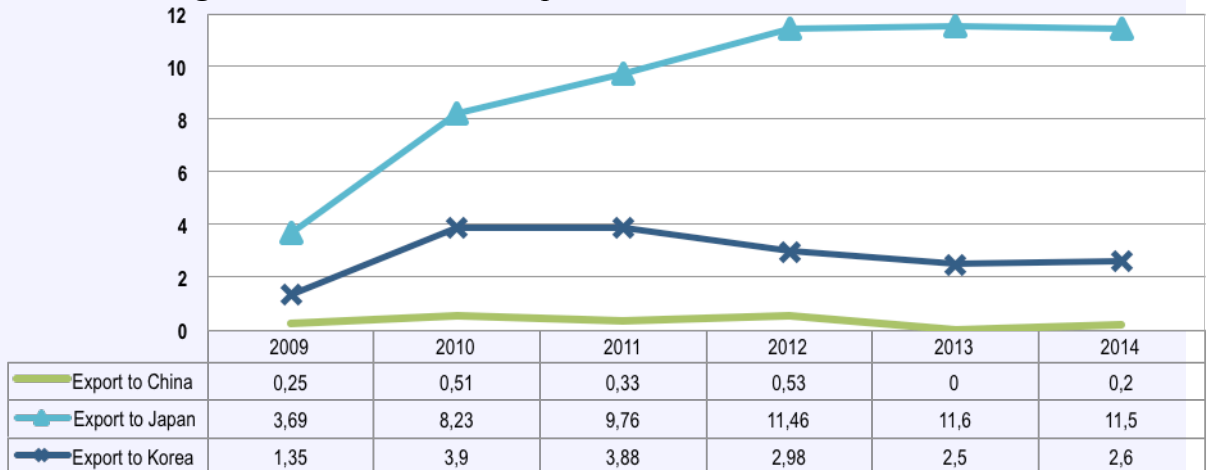


Source: author, based on <<http://www.cbr.ru/statistics/?PrtId=svs>>

The NEA region is a home to the world's largest, second largest and third largest LNG importers - Japan, Korea and China, respectively. Since the Sakhalin LNG plant commencement in 2009, the NEA countries have been the principal buyers (Figures 10 and 11), with Japan absorbing the largest share, of Russia's LNG. Likewise, Russia turned into Japan's fourth-largest (following Australia, Qatar and Malaysia) LNG supplier. After the

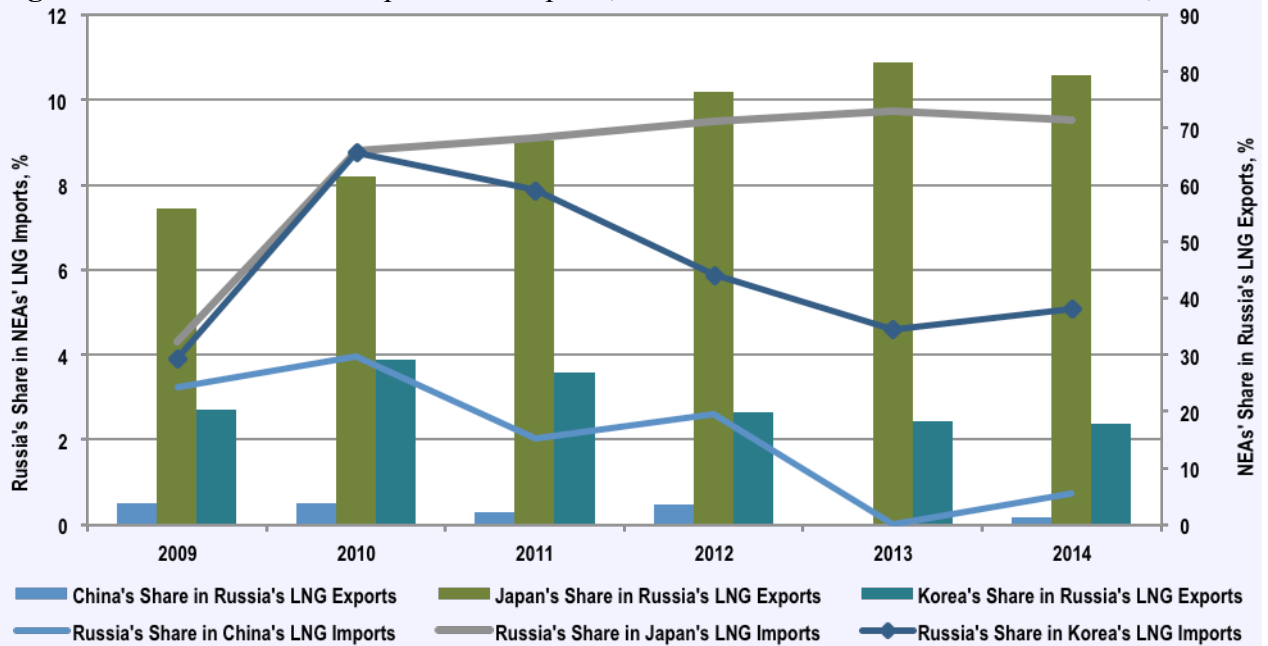
Fukushima disaster, when Japanese utilities were forced to shut down nuclear reactors and reactivate (or even build new) LNG, fuel oil and coal-fired facilities, Russia was among the quickest to respond to Japan's soaring demand for LNG, shipping additional (yet limited) LNG cargo. The long-term contracts with Japan and Korea have contributed to the fact that operating at its 111 per cent capacity the Sakhalin-2 LNG plant is named the world's most efficient project.⁶⁸

Figure 10: Russia's LNG Exports to Northeast Asia, bcm



Source: author, based on BP Statistics.

Figure 11: Shares in LNG Exports and Imports, Russia's and Northeast Asian Countries', %

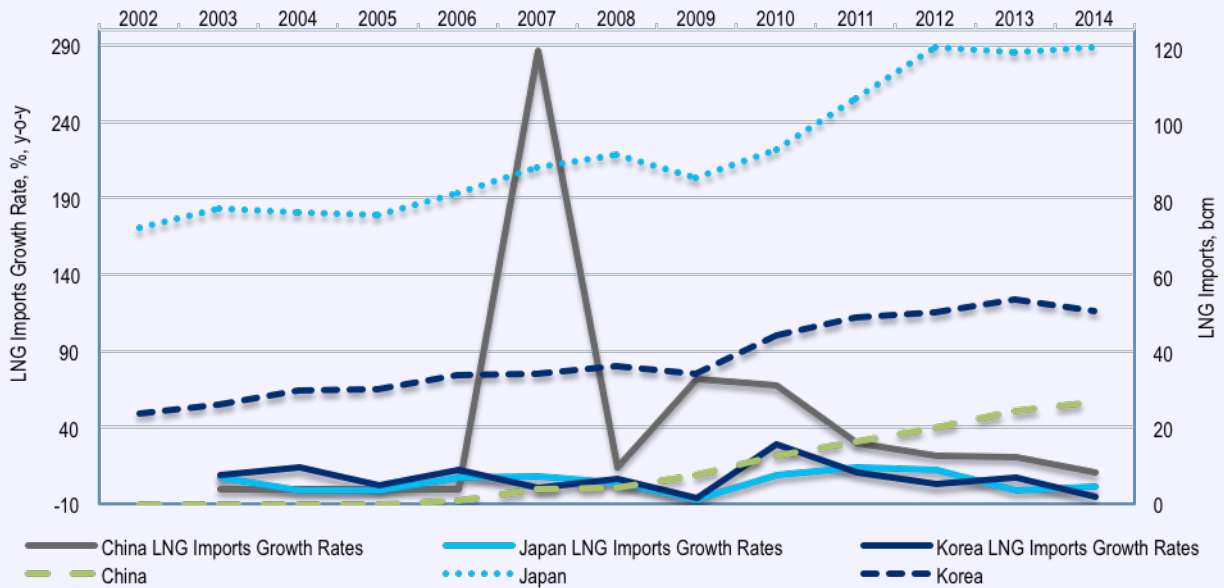


Source: author, based on BP Statistics.

⁶⁸ Производство СПГ России объявлено самым эффективным. 24 июля 2015 (<http://icontrade.ru/information/news/?id=1083>, retrieved July 25, 2015)

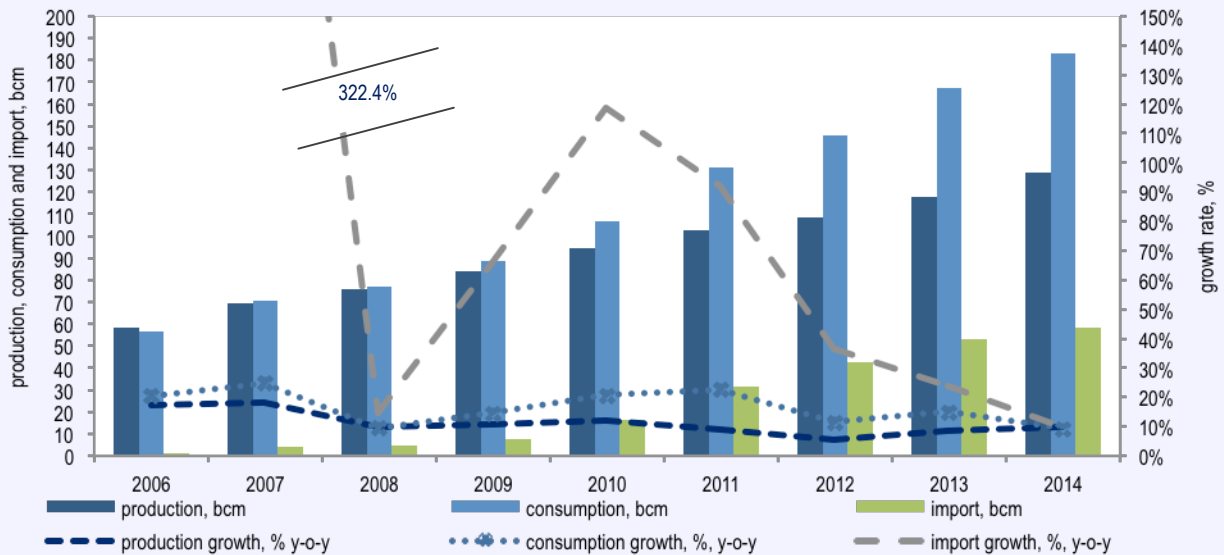
China, which became net-importer of gas in 2006, initially experienced very high growth rates of import. Recently, the growth, yet higher than in Japan and Korea (Figure 12), has been hovering around 10 per cent (Figure 13). Currently, Russia has no readily available LNG for China and only modest volumes are being discussed as possible deals in Russia's new LNG projects.

Figure 12: Northeast Asian Countries' LNG Imports, bcm and %



Source: author, based on BP Statistics.

Figure 13: China's Natural Gas Production, Consumption and Import, 2006-2014, bcm and %



Source: author, based on BP Statistics.

China's imports of pipeline gas from Central Asia (from December 2009) and Myanmar (from July 2013) have been rising steadily. In 2014, Turkmenistan exported 25.5 bcm, Uzbekistan – 2.4 bcm and Kazakhstan – 0.4 bcm, while Myanmar supplied 3 bcm, making up over 53 per cent of China's total (LNG and pipeline) imports. Significant additional supplies from Central Asia (Turkmenistan, most of all) has been already agreed upon and may result in the volumes of about 120 bcm/y in the long-run (Shadrina 2015a).

Russia's future export to China is linked with the agreement concluded between Gazprom and CNPC on 21 May 2014, which finalised a decade-long negotiations. The construction of the 38 bcm/y Power of Siberia gas pipeline (at an estimated cost of \$55 bn), which is to fulfil the \$400 bn 30-year gas supply contract,⁶⁹ began in September 2014. Affected by numerous factors, the start of the project seems likely to be delayed from its originally planned commencement year of 2018. Yet, the Russian government appears to be committed to fulfil the project through the coordination of efforts of all parties – Gazprom, OAO Rosseti, OAO Rossiiskie Zheleznnye Dorogi, local governments and so on - concerned.⁷⁰

It is worth noting (with careful optimism for such a probability) that idea of gas pipeline link with Russia is also discussed in Japan and Korea. However, the interests of domestic industrial lobby thwart the pipeline prospects in the former and the security considerations complicate such a format in the latter.

Overall, in NEA, Russia has been advancing energy relations with China and Japan, while cooperation with Korea was of a more modest scale. The Korean Energy Economics Institute

⁶⁹ Russia, China Ink Historic Gas Supply Deal. RIA Novosti. 21 May 2014 <<http://en.ria.ru/russia/20140521/190004220/Russia-China-Ink-Historic-Gas-Supply-Deal.html>>

⁷⁰ Указ Президента Российской Федерации от 10.08.2015 № 414 «О мерах по реализации Соглашения между Правительством Российской Федерации и Правительством Китайской Народной Республики о сотрудничестве в сфере поставок природного газа из Российской Федерации в Китайскую Народную Республику по «восточному маршруту» <<http://kremlin.ru/acts/bank/39993>>; Распоряжение Правительства Российской Федерации от 31.08.2015 № 1686-п <<http://publication.pravo.gov.ru/Document/View/0001201509010055?index=0&rangeSize=1>>

explains such a result by a certain mismatch of interests: every time when Korea has been seriously interested in Russia's Yakutia (1992) and Kovykta (2003) gas or offshore oil project in Western Kamchatka, Russia preferred other partners to the Korean companies.

3. Prospects for Russia's Greater Role in Northeast Asian Energy Markets

3.1. Institutions for Russia-Northeast Asian Countries Energy Cooperation

Judging by the extent of formal institutions development, energy cooperation between Russia and China is in the most advanced stage (Figure 3). Indeed, China is the only NEA country with which Russia has established Energy Dialogue (since 2008) and coordinates energy cooperation through a special Intergovernmental Commission for Energy Cooperation, whereas Russian-Japanese and Russian-Korean energy cooperation are being advanced via the frameworks of the Intergovernmental Commissions for Trade and Economic Cooperation and for Trade and Scientific Cooperation, respectively.⁷¹

Overall, considering the avenues for multilateral cooperation, it is hard to find institutions uniting Russia with all three NEA economies. China, Russia and Korea are not parties to the launched in 2015 Trans-Pacific Partnership (TPP), while Japan is. However, Russia and China have broader grounds for the interactions under the auspices of the Shanghai Cooperation Organization (SCO), BRICS forums and China-led initiatives, such as the One Belt, One Road (OBOR). The two, for instance, signed the declaration on cooperation within the Eurasian Economic Union (EAEU) and the OBOR in May 2015 emphasising their intention to work jointly in bilateral and multilateral frameworks, above all the SCO.⁷² Russia, China and other members of the SCO and BRICS have declared that energy cooperation becomes one of the areas for their coordinated policies and cooperation.⁷³ In Asia, Russia favours the APEC's initiative for Regional Comprehensive Economic Partnership (RCEP) linking it with the possibilities for the ESFE socio-economic development. Similarly, China-led Asian Infrastructure Investment Bank (AIIB) and the Silk Road Fund are considered as possible financing channels. These diverse developments allowed Dmitry Trenin to observe that in place of "Greater Europe" from Lisbon to Vladivostok, "Greater Asia" or more precisely "Greater Eurasia" from Minsk to Shanghai, is being gradually shaped.⁷⁴

Energy cooperation necessitates a broad range of linkages in investment, trade and so on, and therefore is indeed strategic by its nature. Hence, it is hard to imagine that Russia's energy relations with Japan could remain unimpaired by the two countries divisions over the territorial dispute. Yet, in Japan's Global Energy Strategy toward 2030 endorsed in 2004, Russia was indicated as a supplier, which could potentially help Japan diversify its energy imports (and it is already taking place, as the previous sections showed). At the same time, from Japan's perspective, Russia's investment climate and incomplete market reforms have always been uncondusive to a greater energy cooperation. More recently, Russia's official dialogue with Japan has been adversely affected by the Ukraine crisis. Japan has joined the

⁷¹ For more detail see <http://www.ved.gov.ru/at_mpk/> and <<http://www.ved.gov.ru/exportcountries/kr/>>, respectively.

⁷² РФ и Китай договорились о "состыковке" проектов ЕАЭС и "Шелковый путь". 8 мая 2015 <<http://tass.ru/ekonomika/1956881>>

⁷³ Лидеры стран БРИКС договорились о расширении сотрудничества в области энергетики и энергоэффективности. [Lideri stran BRIKS dogovorilisj o rashirenii sotrudnichestva v oblasti energetiki i energoeffektivnosti] Министерство Энергетики. 9 июля 2015. (<http://minenergo.gov.ru/press/min_news/2935.html, retrieved July 10, 2015)

⁷⁴ Trenin, Dmitri (2015) From Greater Europe to Greater Asia? The Sino-Russian Entente. Carnegie Moscow Center <http://carnegieendowment.org/files/CP_Trenin_To_Asia_WEB_2015Eng.pdf>

sanctions and downplayed diplomatic exchange with Russia.⁷⁵ The planned for 2014 (and re-scheduled for 2015) Russian President's and other officials' visits to Japan were cancelled. While in the aftermath of the Ukraine crisis Russia's relations with Korea have suffered less damage than those with Japan, being the staunch allies of the US, Korea and especially Japan are careful to consider any expansion of energy cooperation in the circumstances of economic sanctions (Paik 2015: 37; Henderson 2015: 51).

3.2. Russian Oil and Gas Actors and Interests

By their ownership, Russian oil and gas producers are either state-owned (SOC) or private. The former have traditionally had vast privileges in obtaining and operating large deposits (called strategically important reserves) and enjoyed significant backing from the Russian government and President Vladimir Putin himself in commercial, legal and other matters domestically, as well as abroad. Gazprom and Rosneft are Russia's biggest players of the first kind, while Novatek and Lukoil are the best illustrations of the second. Importantly, Russian oil and gas sector is evolving gradually to embrace small-sized independent producers. Their contribution to output is yet minor: some 2.5 per cent in oil segment and 7.3 per cent in gas, as of 2014. Irkutskaya Oil Company (INK), which together with JOGMEC's subsidiary Japanese South Sakha Oil Company (JASSOC⁷⁶) established INK-Zapad for oil and gas development in Irkutsk Oblast is an example of successful small independent producer.

Taking into account such a structure of the sector and the fact that the gas segment undergoes the most remarkable developments, as well as keeping focus on the ESFE, this section centres on Rosneft, Gazprom and Novatek; more precisely, on their business strategies and competition among them as regards the Asian markets.

Rosneft, Russia's largest oil producer (36.2 per cent, as of 2014) has, as discussed earlier, an ambitious strategy for oil export expansion to the Asian markets, and above all, China. This strategy envisions the cooperation beyond just trade in oil. Traditionally, Chinese investors, in contrast to western ones, were very reluctantly permitted to hold equities in Russian energy companies under the pretext of national security considerations.⁷⁷ The recent divide with the western economies has, however, changed this attitude. Indeed, an increase of the Chinese companies' presence in Russia's upstream sector is remarkable. That is to say, in 2005, Rosneft sold 25.1 per cent to Sinopec in the Veninskii block of the Sakhalin-3 project. In August 2006, Sinopec purchased 96.86 per cent of shares from TNK-BP in its subsidiary Udmurtneft (6.4 Mt/y in 2011 through Promleasing). Also in 2006, Rosneft and CNPC signed an agreement on Vostok Energy (Rosneft has 51 per cent, CNPC – 49 per cent). In 2007, Vostok Energy obtained two small deposits in Irkutsk oblast. CNPC acquired 0.6 per cent of Rosneft for \$500 mn during IPO. In October 2013, Rosneft and CNPC agreed on the Srednebotuobinskoe field (Rosneft holds 51 per cent). In September 2014, Rosneft's offered 10 per cent stake in the Vankorskoe field to CNPC for some \$1 bn. In June 2015, Rosneft sold 20 per cent in Taas-Yuryakh Oil and Gas Project to BP (includes Srednebotuobinskoe field) and negotiated 29 per cent sale with the UK-Chinese private company Skyland Petroleum

⁷⁵ США раскритиковали Японию за переговоры с Россией по мирному договору. *Взгляд*. 8 октября 2015 <<http://vz.ru/news/2015/10/8/771361.html>>

⁷⁶ Itochu Corp. and Inpex Corp. hold 49 per cent share (INK - 51 per cent).

⁷⁷ *Lukin, Alexander (2015) Russia, China and the Emerging Greater Eurasia. The Asian Forum. 18 August* <<http://www.theasianforum.org/russia-china-and-the-emerging-greater-eurasia/#15>>

Group to develop Sredneboyuobinskoe. Also, needing the funding for its eastern greenfields, Rosneft sold 15 per cent share to India's ONGC for \$1.27bn in the Vankorneft in September 2015.

In China, Rosneft seeks a role in downstream. In 2007, Rosneft (49 per cent) and CNPC (51 per cent) established Chinese-Russian Eastern Petrochemical Company, which is constructing a 12Mt/y (two trains) refinery in Russia's Nakhodka and 16 Mt/y refinery in China's Tianjin to complete in 2016 and 2019, respectively.

Another part of Rosneft's expansionary Asian strategy is the development of gas exports. Because Rosneft's plans stretch beyond LNG segment, Gazprom's status as the owner of the pipeline system and the monopolist exporter of pipeline gas is being challenged.⁷⁸ In the government,⁷⁹ there is serious deliberation about Gazprom's organisational transformation, involving the feasibility of unbundling of production and transport operations, and overall the liberalisation of Russian gas sector.⁸⁰

Gazprom has been criticised for its business short-sightedness and a lack of commercial prudence.⁸¹ Indeed, from late 2014 Gazprom's diversification plans were developing so swiftly and changing as quickly afterwards that the company's business model was coined a "strategy of improvisation".⁸² Certainly, Gazprom values the EU as a traditional and large consumer and it especially does so as it realises that there will be no quick agreement with China on the PoS-2.⁸³ In Europe, Gazprom faces a set of uneasy issues: the anti-trust lawsuits initiated by the EU Commission over the allegedly inflated prices for Bulgaria, Poland and the Baltic countries, impediments to free flow of gas among the EU member states and linkage of the contract terms with the requirements of the development of pipeline infrastructure. As these may result in penalties ranging from \$1 to 3.8 bn,⁸⁴ Gazprom demonstrates its readiness to negotiate and mediate over the disputed matters instead of entering into arbitrations. The company has already been amending its price strategy in Europe in a variety of ways (Henderson and Mitrova 2015). In 2013, Gazprom implemented a new price discount model with retroactive payments. Since 2009, Gazprom revised contract terms with 30 consumers 65 times, granting price discounts, easing the take-or-pay clause and introducing spot component into pricing formulae. Gazprom has already granted about 25 per cent discount (equivalent to \$90/1,000 cm) compared to the pre-crisis oil-linked prices to the European customers. In

⁷⁸ Серов, Михаил и Папченкова Маргарита (2015) «Роснефть» хочет разделить «Газпром» и полностью лишить его экспортной монополии. *Ведомости*. 23.07.2015 (<http://www.vedomosti.ru/business/articles/2015/07/23/601845-rosneft-hochet-razdelit-gazprom-i-polnostyu-lishit-ego-eksportnoi-monopolii>, retrieved July 25, 2015)

⁷⁹ Минэнерго выступило за сохранение монополии «Газпрома» на экспорт. 28.07.2015. *Интерфакс/Ведомости* (<http://www.vedomosti.ru/business/news/2015/07/28/602483-minenergo-vistupilo-za-sohranenie-monopolii-gazproma-na-eksport>, accessed July 29, 2015).

⁸⁰ Глава ФАС Артемьев заявил о неизбежности разделения "Газпрома". *Прайм*. 30 октября 2015 <<http://1prime.ru/energy/20151030/821541072.html>>

⁸¹ Серов, Михаил «Газпром» пострадал от мании добычи. *Ведомости*. № 3883. 29.07.2015 <<http://www.vedomosti.ru/business/articles/2015/07/29/602559-gazprom-potratil-24-trln-rub-na-nevostrebovannie-proekti>>

⁸² Tatiana Mitrova on Gazprom's improvisation. *Natural Gas Europe*. 21 September 2015.

⁸³ Lossan, Alexei (2015a) Why Gazprom became so flexible. *Russia beyond the Headlines*. 6 July <http://asia.rbth.com/business/2015/07/06/why_gazprom_became_so_flexible_47497.html>; Lossan, Alexei (2015b) Is Gazprom cutting the Turkish Stream in half? *Russia beyond the Headlines*. 17 July <http://asia.rbth.com/business/2015/07/17/is_gazprom_cutting_the_turkish_stream_in_half_47821.htm>; Серов, Михаил (2015) "Заключение второго газового контракта с Китаем откладывается". *Ведомости*. 22.07.2015 <<http://www.vedomosti.ru/business/articles/2015/07/22/601621-zaklyuchenie-vtorogo-gazovogo-kontrakta-s-kitaem-otkladyvaetsya>>

⁸⁴ Gazprom: Seeking a Rapprochement with the EU? 24 September 2015 <http://www.naturalgaseurope.com/gazprom-seeking-a-rapprochement-with-the-eu-25548?utm_source=Natural+Gas+Europe+Newsletter&utm_campaign=5040cba39c-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c95c702d4c-5040cba39c-307791445>

September 2015, Gazprom tested a new form of gas trade – auctions, which is fully compliant with the EU vision of gas market. The company offered 3.24 bcm and sold 1 bcm. Also, most recently, Gazprom's position on pricing for Ukraine and post-2019 transit via Ukraine has become more flexible and constructive.

And yet, Gazprom has ambitious plans for Asia. The company targets at annual deliveries to China of 100 bcm/y or more via, as has been announced at the 2015 Sakhalin Oil and Gas Conference, three routes: PoS, PoS-2 and a newly announced pipeline shipping the Sakhalin gas.⁸⁵ Gazprom operates by the assessments of total China's demand for imported gas at 131 bcm in 2025, while Henderson and Mitrova (2015: 14-17) argue that China has already contracted some 150 bcm for 2025 besides Russian supplies. Similarly, the available estimates assess China's gas oversupply at 30-100 bcm by 2025-2030.

Furthermore, Gazprom intends to advance LNG exports to the Asian markets. While the Vladivostok LNG plant's prospects seem to be rather bleak due to its unattractive economics, the 3rd train of Sakhalin-2 has solid chances to succeed. Even in the circumstances of high competition, Sakhalin LNG has good margin in the transport component of price (Gazprom's some \$0.5-1/MBtu against majority of other suppliers' standard of \$2-2.5/MBtu).

Pipeline segment will develop to enable the PoS agreements with China, but the delays are likely. Gazprom's financing constraints are certainly the factor, as is China's own uncertainty about its actual gas demand. In such circumstances, Russia's delays in PoS implementation appear to be to China's benefit.

Out of the three companies mentioned in this section, Novatek presents an interesting case. Despite all the adverse environment of sanctions and weak energy prices, it steadily progresses with its LNG plant project and combines cooperation with a wide range of European and Asian partners. Novatek has engaged into close cooperation with the Chinese companies. In June 2013, Novatek sold 20 per cent to CNPC in Yamal LNG project. In September 2015, Novatek sold 9.9 per cent in Yuzhno Tambeiskoe (Yamal LNG) to China's Silk Road Fund (SRF), thereby bringing its own share to 51 per cent (Total holds 20 per cent and CNPC - 20 per cent).⁸⁶ China's SRF is expected to join the project with \$10-20 bn. Also, the funding of \$3 bn and \$1 bn is possible via Russia's Sberbank and Gazprombank, respectively. Novatek has also secured RUB 150 bn (\$2.20 bn) from Russia's National Welfare Fund.⁸⁷

Despite Russia has started the construction of its own shipyard Zvezda in Primorsky krai, it is certain that Russian oil and gas producers need external expertise in building oil tankers and LNG carriers in the short-term. Korean shipbuilders seem to be in an especially beneficial position. For instance, Yamal LNG's 15 vessels⁸⁸ are to be built at the Daewoo Shipbuilding & Marine Engineering (DSME) shipyard in Korea. Novatek also cooperates with Japanese engineering companies and considers the possibilities of Japanese financing for its Yamal and Gydan LNG projects.⁸⁹ Overall, Japanese energy companies seem to be willing to explore the

⁸⁵ Mazneva, Elena (2015) Gazprom Says China Supply Talks Looking Beyond Short-Term Demand. *Bloomberg*. 29 September <<http://www.bloomberg.com/news/articles/2015-09-29/gazprom-says-china-supply-talks-looking-beyond-short-term-demand>>

⁸⁶ Golubkova Katya, and Denis Pinchuk (2015) Financing for Russia's Yamal LNG plant stalls – sources. 19 October <<http://www.cnbc.com/2015/10/19/>>

⁸⁷ Russia's Sberbank says to decide on Yamal LNG financing terms by month-end. September 8, 2015. <http://www.reuters.com/article/2015/09/08/russia-yamal-lng-china-idUSL5N11E38620150908>

⁸⁸ One was awarded to Sovcomflot, three to Mitsui O.S.K. Lines (MOL), six to Teekay and five to Dynagas.

⁸⁹ Алексей Текслер рассказал о перспективах российско-японского сотрудничества в энергетике. 22.09.2015 <http://minenergo.gov.ru/press/min_news/3391.html>

prospects of cooperation with Russian power sector companies, renewable energy and new sources of energy.⁹⁰

What appears to be probable is a gradual development of various types of cooperative schemes, such as joint construction and exploitation of export pipeline infrastructure, co-exporting, swapping and so on, with other pipeline gas suppliers from the Caspian Sea region⁹¹ and Central Asia. This may make some corrections to the Russian majors' currently pursued visions of "independent" export diversification. Apparently, in the environment of worsening commercial context for Russia's energy supplies to the European markets, major Russian energy producers attempt to re-balance their business portfolios through larger businesses with Asian consumers.

3.3. Northeast Asian Countries' Energy Policy Transformations: Impact on Demand for Russia's Supplies

Russia's prospects in the NEA oil and gas markets are defined by the dynamics of the NEAs' domestic demand and the global supply trends.

Despite the fact that the NEA-3 have rather different energy profiles, there are two common trends in the countries' energy policies transformation. These are: a resumption of nuclear energy agenda and a more involved attitude towards renewable energy (in part, forced by the climate change agenda, but, increasingly, by an attempt to reinvigorate economic growth, such is the case of Japan's Abenomics). It appears that the NEAs are prepared to advance their policies along both dimensions.

In Japan, the principal factor stipulating demand for the imported energy is the future of nuclear power. In July 2015, the Japanese government announced its vision of nuclear energy role setting a target at 22 per cent of the country's energy mix by 2030, which is smaller than 30 per cent projected before the 2011 Fukushima disaster.⁹² As of October 2015, 21 out of Japan's 43 operable reactors are undergoing Nuclear Regulation Authority (NRA) safety reviews. After Sendai-1 restarted in August 2015 and Sendai-2 (both belong to Kyushu EPC) restarted in October 2015, two more reactors Takahama-3 and Takahama-4 (Kansai EPC) are undergoing the preparations with not so perfectly strong prospects for their actual restarts.⁹³ Another likely to re-operate is Shikoku EPC's Ikata-3 reactor, which has been approved by the Ikata town assembly and Ehime prefectural assembly, but did not undergo the NRA's final pre-service inspection. While the restarts are fewer and slower than have earlier anticipated (seven reactors are likely to restart, nine reactors may never operate again and the prospects of the remainder look uncertain),⁹⁴ they define directly the need for the imported energy resources. As LNG share in power generation is projected to fall from over 40 per cent as of

⁹⁰ Кулявцев, Валентин (2015) Энергомост Россия – Япония планируется построить к 2020 году. 4 сентября 2015 <<http://peretok.ru/strategy/energomost-rossiya-yaponiya-planiruetsya-postroit-k-2020-godu.html>>

⁹¹ Создаётся азербайджано-российский газовый альянс [Sozdayotsya azerbaidzhano-rossiiskii gazovyi al'jans]. *Caspian Barrel*. 12 July 2015 <<http://caspianbarrel.org/?p=32366>>

⁹² Strategic Energy Plan. METI. April 2014 <http://www.enecho.meti.go.jp/en/category/others/basic_plan/pdf/4th_strategic_energy_plan.pdf>; Long-term Energy Supply-demand Outlook. METI. 17 July 2015 <http://www.meti.go.jp/press/2015/07/20150716004/20150716004_2.pdf>

⁹³ There is a court injunction against the restarts.

⁹⁴ Nuclear Power in Japan. World Nuclear Association <[HTTP://WWW.WORLD-NUCLEAR.ORG/INFO/COUNTRY-PROFILES/COUNTRIES-G-N/JAPAN/](http://WWW.WORLD-NUCLEAR.ORG/INFO/COUNTRY-PROFILES/COUNTRIES-G-N/JAPAN/)>; HAMADA, KENTARO; SHELDRIK, AARON (2015) Japan nuclear power outlook bleak despite first reactor restart. Reuters. September 1, 2015. <http://www.reuters.com/article/2015/09/08/russia-yamal-lng-china-idUSL5N11E38620150908>

2014 to around 27 per cent by 2030, the share of natural gas in primary energy consumption is to decline from 25 per cent in 2014 to 18 per cent by 2030 and the overall LNG import is anticipated to fall from about 90 Mt in 2014 to 62 Mt in 2030.⁹⁵

Korea, which currently has 24 reactors in operation and ten either under construction or planned, seems to be preparing to have a larger share of nuclear energy.⁹⁶ In 2015, Korean Ministry of Trade, Industry and Energy (MOTIE) published its 7th Basic Power Supply Plan for the period up to 2029, which includes the construction of two additional nuclear power reactors to keep pace with the country's total electricity demand increasing by some 2.2 per cent annually over the next 15 years. With Unit-1 of the Kori plant scheduled to close in 2017, the country would have 35 units in operation by 2029. In the aftermath of Fukushima and following a chain of disclosed irregularities in the domestic nuclear sector, the initial 2030 target of 41 per cent for nuclear energy was downsized to 28.2 per cent in 2029,⁹⁷ which is yet an increase from 22.4 per cent in the year 2014.

China, which suspended its plans for the new nuclear reactors in the aftermath of the Fukushima accident, now projects to increase the share of nuclear to 16 per cent by 2030. The severe aerial pollution urges the government to implement cleaner energy policies; and nuclear is one of the best options. Currently, China has 28 operating reactors (generating 2.4 per cent of electricity) and further 23 units are at different stages of planning and construction.⁹⁸ China's other specific factors defining demand for imported energy resources are: the decelerating dynamics of economic growth on the whole and in China's northern regions,⁹⁹ the scope of liberalisation of domestic gas market, the (smaller than projected, but yet) success in indigenous energy resources production, such as coal-bed methane, coal-to-gas and shale gas (Shadrina 2014c), the ambitions in climate change policy and so on. It can be observed that owing to the scope of China's energy demand, fluctuation along any of these dimensions may result in rather significant deviations from a certain scenario. It is now commonly recognised that China's domestic, as well as international energy agencies have largely overstated the assessments on China's demand for the imported energy resources (Shadrina 2014c, Paik 2015, Mitrova and Henderson 2015) and contrary to the forecasted shortages, China is likely to enjoy an oversupply in the short-run.

Overall, Japan's Institute of Energy Economics (IEEJ) foresees a continuous growth of primary gas demand in the greater Asia (Graph 14).¹⁰⁰ However, the demand in large and mature markets, such as the Japanese and Korean, will remain nearly unchanged, while China's demand will grow at a more modest rate. Yet, the accuracy of the IEEJ's forecast may be contested, as, for instance, a result of economic slowdown and milder than typical weather, the NEA-3 demonstrate lower than expected demand for LNG import in 2015 (insertion in Graph 14).

⁹⁵ Proceedings of the LNG Producer – Consumer Conference, Tokyo, 16 September 2015 <<http://www.lng-conference.org/english/>>

⁹⁶ Nuclear Power in South Korea. World Nuclear Association <<http://www.world-nuclear.org/info/Country-Profiles/Countries-O-S/South-Korea/>>

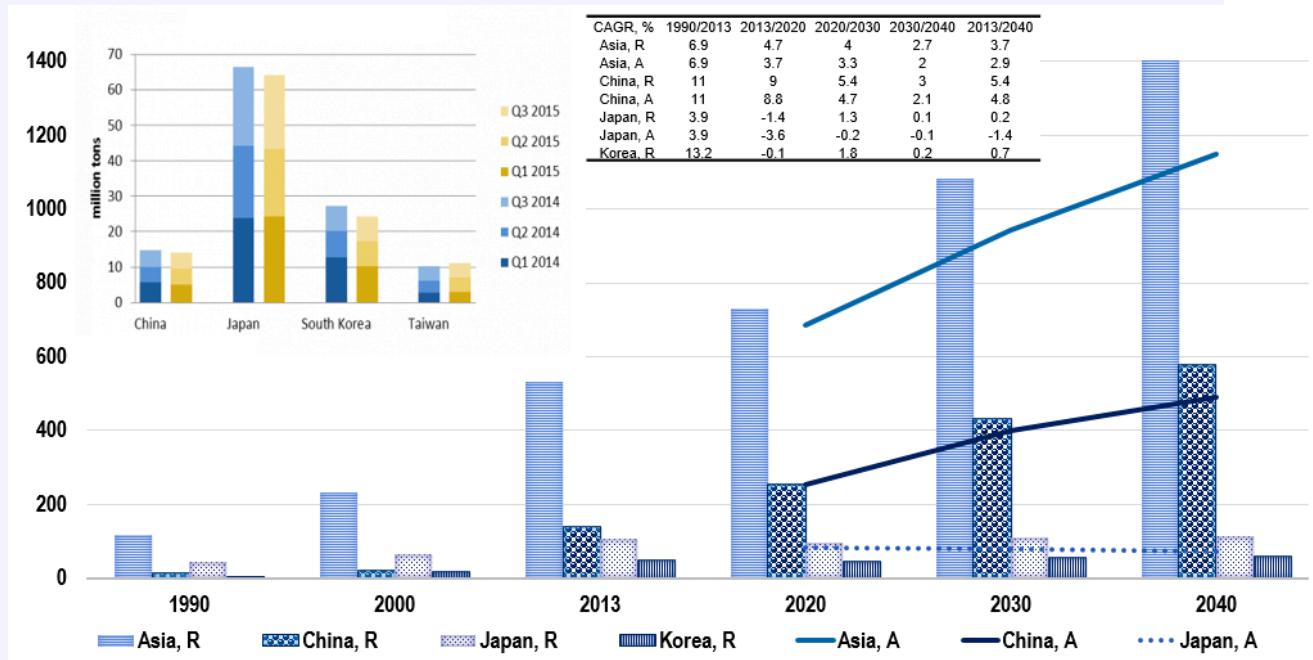
⁹⁷ South Korean energy plan sees two more reactors. World Nuclear News. 22 July 2015 <<http://www.world-nuclear-news.org/NP-South-Korean-energy-plan-sees-two-more-reactors-2207154.html>>

⁹⁸ Nuclear Power in China. World Nuclear Association <<http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/China-Nuclear-Power/>>

⁹⁹ Chen, Michael (2014) The Development of Chinese Gas Pricing: Drivers, Challenges and Implications for Demand. The Oxford Institute for Energy Studies. OIES Paper: NG 89. p. 18.

¹⁰⁰ Asia/ World Energy Outlook. IEEJ. October 2015.

Graph 14: Primary Gas Demand in Asia, Mtoe



Note: R denotes “reference” and A – “advanced technologies” scenarios;
CAGR – compound average growth rate, %;
Insertion: Q1-Q3 2015 LNG Imports, Mt.
Source: author, based on IEEJ and Cedigaz data.

In greater Asia, Russia’s prospects for larger energy exports can be linked to the fact that currently 38 per cent of Asia’s LNG import is being covered by the Asia-Pacific suppliers, which include among others Indonesia and Malaysia with their growing domestic energy demand and, consequently, declining export potential. Furthermore, as much as 40 per cent of Asia’s LNG imports are of the Middle-Eastern origin, which after factoring in significantly escalated security risk, seem to be by far less competitive.

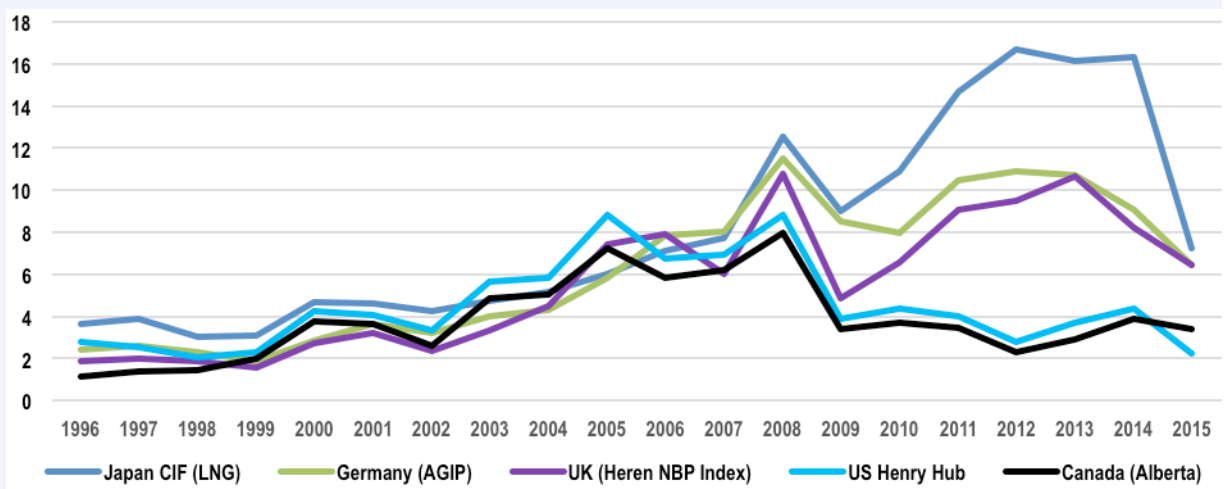
The growing competition of supplies¹⁰¹ from North America (a number of LNG deals were concluded and the first cargo from Cheniere Energy's Sabine Pass LNG plant is expected to arrive to Asia in December 2015 – January 2016) and Australia (the first cargoes from the Gladstone LNG project, the second of three coal-seam gas-to-LNG projects) makes Russia’s aspirations to seize a niche in the NEA gas markets more difficult to realise.

In oil export, traditional suppliers to Asia-Pacific, such as Saudi Arabia, have engaged in a tough price competition, offering generous discounts to the Asian buyers and bringing oil price in Asia to a record low level. Should the US lift the oil export ban, the Asian markets will have even more (and presumably) cheaper supplies. The persistent weakness in oil prices, which with a six to nine months lag affects the price of long-term LNG contracts and deflates

¹⁰¹ Wood Mackenzie sees room for LNG oversupply in Asia to 2025. September 4, 2015. http://www.naturalgaseurope.com/wood-mackenzie-sees-room-for-lng-oversupply-in-asia-to-2025-25288?utm_source=Natural+Gas+Europe+Newsletter&utm_campaign=540a54ae87-
RSS EMAIL CAMPAIGN&utm_medium=email&utm_term=0_c95c702d4c-540a54ae87-307791445

the spot price (Graph 15),¹⁰² tremendously narrows the window of opportunities for the Russian producers, which although have absolute advantage in the transport component of LNG price, are less competitive in the production costs segment. Affected by the sanctions, as has been explained above, Russian producers additionally face financial restraints and a lack of access to cost-efficient and technology-effective solutions, which are necessary for the development of the new projects in ESFE.

Graph 15: Gas Prices, \$/ MBtu (as of October 2015)



Source: author, based on BP data.

Thus, the analysis of prospects for Russia’s gas exports in the environment of economic sanctions and low energy prices, as well as the terse assessment of the trends in energy supply-demand in NEA and the respective countries’ energy policies, lead to a proposition that the overall situation does not particularly favour Russia’s expansion strategy. Out of a range of gas export projects, only a handful of them seem to be likely to be implemented in the short- to mid-term (Table 8).

Table 8: Prospects for Russian Companies’ Gas Export Projects

Company	Target Markets	Under Construction	by 2020	by 2025	by 2030	by 2035
Gazprom	Asia	Power of Siberia gas pipeline → 38 bcm (2019→2021)	3 rd train Sakhalin-2 LNG 5 Mt	Power of Siberia-2 (Altai) →30 bcm	Vladivostok LNG plant, 5 →15 Mt 4 th train Sakhalin-2 LNG	
	Europe		Turkish Stream 1 st line** 15.75 bcm Nord Stream-2, 1 line 27.5 bcm	Baltiisky LNG 8Mt Turkish Stream 2 nd line	Nord Stream-2, 2 nd line 27.5 bcm Turkish Stream 3 rd -4 th lines**, each 15.75 bcm	South Stream* Shtokman LNG 15Mt**
Rosneft	Asia			Sakhalin-1		

¹⁰² Азиатский рынок СПГ теряет свою привлекательность? Московский нефтегазовый центр компании ЕУ. 18 августа 2015
<<http://api.eyapp.ru/focus/24>>

				Daljnnevostochny LNG 5 → 15 Mt		
	Europe and Asia				Pechora LNG 2.6 → 5.2 Mt	
Novatek	Europe and Asia	Yamal, LNG plant 16.5 Mt		Arctic LNG 1, 2, 3, each 5.5 Mt, total 16.5 Mt		

Note: 1 Mt = 1.38 bcm

* - the project has been scrapped;

** - the prospects are indefinite

Source: author.

With already announced the delay (till 2021) and yet the time required to reach the PoS' projected capacity, China still stands to become the first recipient of Russia's new pipeline gas supplies from the ESFE. Other most probable additional supplies can be expected from the expansion of the Sakhalin-2 LNG project. Under the current circumstances, the feasibility of the rest of the aforementioned gas export projects appears to be rather uncertain.

4. Conclusions and Policy Implications

The shift towards Asia in Russia's energy policy takes clearer contour, but this does not signify Russia's ultimate resolve to move away from Europe. What Russia is aspiring to achieve is a more balanced model of energy exports. China's role is likely to increase remarkably, as the country stands to receive more than a third of Russia's energy exports by late 2020s. The growing volume of Russia-China deals and the diverse nature of the bilateral and multilateral institutions the two are engaged in for their cooperation, suggest that the nations have achieved a notable progress towards strategic partnership. It appears, however, that in the segment of pipeline gas export Russia risks to construct China's monopsony. What Russia can do in order to mitigate such a risk is to more eagerly pursue an inclusive regional economic development of the ESFE. A greater regional oil and gas demand will create a sound alternative to export, thereby helping improve Russia's negotiation position vis-à-vis China.

Yet, the materialisation of the diversification strategy requires certain institutional changes in Russia's domestic energy policy. The disparity is growing between Gazprom's declining role in production and its unchanging monopolist status in the transport segment (via the ownership of the pipeline system) and export. Such a situation hampers the development of domestic gas market and impedes the implementation of economically feasible projects by the independent producers. Should Russian gas sector undergo genuine liberalisation, a variety of Russian gas producers would be able to develop their businesses both domestically and in the export markets. The latter is especially timely in connection with the rapid evolution of the global gas business.

The energy markets are influenced by a great number of factors, which can largely be divided into two groups – cyclical and structural. While the former cease their negative impact as soon as economic recovery allows the markets to set into a newly found equilibrium, the latter (linked to the advancements in energy efficiency, revolutionary new types of energy, environmental regulations and so on) change the market so that a new equilibrium reflects no traditional logic. The problem with Russia strategising its energy is

that it tends to omit the structural shifts overemphasising the importance of cyclical fluctuations.

Russia's energy producers have eventually realised the significance of regulatory frameworks transformations in the EU, but they yet seem to be not as attentive to the ongoing diverse institutional shifts in the Asian gas markets. There are, for instance, profound reforms towards the liberalisation of the domestic gas markets (in Japan and China, in particular). There are buyers' moves to strengthen their negotiating positions. Such is a recent case of two large Japanese buyers - TEPCO and Chubu Electric Power Co., which in April 2015 established JERA, a joint venture to coordinate the two utilities' overseas resource development projects and fuel procurements among other things. There are remarkable shifts to establish the international partnerships among the LNG buyers. Such are the cases of agreed in 2013 partnerships between Japan's Chubu Electric and Korea's KOGAS (which is the world's largest single buyer), and Chubu and India's GAIL, which envision coordination of LNG purchases, ship swaps and other forms of cooperation. There are continued actions to materialise the idea of LNG futures market in Asia. In September 2014, Japan OTC Exchange (JOE) was established by TOCOM (40 per cent share) and Singapore-based broker Ginga Petroleum (60 per cent). Uniting 23 traders, the JOE registered its first non-deliverable forward contract in July 2015. Another project of hosting LNG trading hub is being rivalled by Tokyo and Singapore (as well as by some other Asia-Pacific contenders). Japan has certainly succeeded in launching a forum for business dialogue among many sides involved in the LNG value chain; the LNG Producer – Consumer Conference became such a venue. Dependent on the external supplies, the Asian buyers voice their interest in pursuing a strategy of portfolio diversification (combination of long-, mid- and short-term contracts, as well as spot trade) and assure that while the share of the long-term contracts will decrease, they will not be abandoned altogether. The Asian consumers see their greater inclusion in the overseas LNG value-chain, which appears to be beneficial to all sides, as at the time of low prices, producers need some guarantees that their investment will pay back. More flexible contract terms, such as index pricing (not only for spot trade) is another area where the consumers see a room for cooperation with the producers. These diverse shifts need to be competently assessed and promptly acted upon if Russia indeed has its energy strategy for Asia.

