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Review

Russia's Energy Cooperation with the Asia-Pacific Region: LNG, Pipeline Gas, and Trade Reorientation under Sanctions

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Abstract: The energy sector in Asia-Pacific countries is currently undergoing a transformation. This is explained by the gradual transition to a post-industrial development model, which involves a gradual increase in the share of the service sector (as a percentage of GDP), as well as the urbanization of the population. This ultimately leads to an increase in the consumption of not only liquid hydrocarbons but also natural gas, particularly in transport and the electric power sector. While some Asia-Pacific countries have reached or are already approaching their peak in liquid hydrocarbon demand (with the exception of low-income countries such as India), the peak in gas demand will occur in the 2040s and 2050s. Given the shortage of natural gas to meet the needs of their domestic markets, Asia-Pacific countries are interested in increasing gas supplies from Russia. Moreover, the main demand will be concentrated not only in China and India, but also in ASEAN countries. This article examines Russia's cooperation with the Asia-Pacific region in the supply of both pipeline gas and Liquefied Natural Gas (LNG). The most promising way to increase exports in the long term may be through increased LNG supplies, particularly to ASEAN countries. However, to increase exports of this type of gas, Russia needs to address a key issue: the construction of tankers under the Russian flag.

Keywords: Gas Industry; Foreign Economic Activity; Asia; LNG; Pipeline Gas

1. Introduction

One of the key trends in global commodity and energy markets is the rapid increase in primary energy consumption in Asian countries, driven by both economic dynamics and the development of the petrochemical industry—in the production of polyethylene and polystyrene, as well as fertilizer production, individual Asia-Pacific countries are already considered net exporters.

In a relatively short period of time [1], these countries have strengthened their positions in global production, trade, and energy, displacing the developed world. In 2024, the Asian region's combined share of global GDP (2015 PPP) reached 45.5%, up 9.3 percentage points from 2010, and primary energy consumption [2] reached 47.2% (up 8.1 percentage points). Asia-Pacific region dominance is also observed in terms of economic growth rates. According to estimates based on World Bank and IMF data, from 2010 to 2024, Asia-Pacific countries contributed approximately 62.1%, or 2.0 percentage points, including China's 1.2 percentage points and India's 0.4 percentage points. At the same time, the role of developed countries has steadily diminished, with the United States' share of global economic development slowing from 0.4 percentage points in 2015 to 0.3 percentage points in 2024, while the EU remained at the 2000–2009 level—0.3 percentage points.

Japan's role has decreased slightly, from 0.06 percentage points to 0.05 percentage points, due to the poor demographic situation and an aging population. From 2010 to 2025, the population decreased by 3.3% to 123.8 million [3]. The share of people over 65 was 29.3%. Aging affects not only employment and government spending, but also the supply and demand of non-renewable energy sources, primarily the natural gas and liquid hydrocarbons market. According to JODI and IEA, demand for liquid hydrocarbons in Japan fell by 24.4% to 3.5 Mb/d, including from transport, 14.2% to 1.58 Mb/d. Natural gas consumption in the country shrank by 11.9 billion cubic meters, to 88.4 billion cubic meters.

Given Russia's vast natural gas reserves and the country's shift toward the East, trade and economic cooperation to expand gas supplies could become a key factor in developing both bilateral and multilateral relations, for example, with ASEAN countries, China, and India.

2. Trade and Economic Cooperation between Russia and Asian Countries

Over the past 15 years, trade and economic relations with Asian countries have been divided into several stages. The first of these spanned the period from 2010 to 2014. During this period, the first phase of the East Siberia—Pacific Ocean oil pipeline system was commissioned, contributing to an increase in oil supplies to East Asia from 41.2 million t in 2010 to 60.7 million t [4]. The Sakhalin-2 LNG project also reached full capacity, diversifying the geography and increasing the mobility of Russian gas supplies abroad. Thus, already during this period, Russia began its "pivot to the East." By the end of 2014, Asia's share of oil supplies (in physical terms) from Russia increased from 16.6% to 27.1%, and gas from 6.1% to 7.0%.

The second phase, from 2015 to 2016, saw a decline in mutual trade due to falling oil prices and the imposition of the first sanctions against Russia, which were also joined by some Asian countries dependent on the United States, such as Japan and South Korea. According to the Japanese Ministry of Finance and Korea Trade Association, in 2016, oil imports from Russia to these jurisdictions amounted to 0.31 Mb/d, which is 31.3% lower than in 2015, including Japan—0.2 Mb/d (−30.4%).

The third stage of Russian-Asian cooperation, from 2017 to the present, is associated with the rapid growth of Russian exports of goods and services. During this period, the largest LNG plant, Yamal LNG, and the Power of Siberia gas pipeline were commissioned. Asian investors are also participating in another project, Arctic LNG 2, where two of three trains have already been launched.

2.1. Foreign Trade in Goods

Following the imposition of the first sanctions against Russia in 2014, expanding trade ties with the Asia-Pacific region became a key focus of foreign economic policy. According to statistics from national customs authorities of Asia-Pacific countries, trade turnover between Russia and the Asia-Pacific region increased from $123.4 billion in 2010 to $363.6 billion in 2024 (**Figure 1**), partly due to the participation of foreign companies in Russia's energy projects, such as Sakhalin-2 and Yamal LNG, as well as the expansion of oil infrastructure in the Far East. Thus, the capacity of the entire ESPO system, including the port of Kozmino, expanded from 30.0 to 80.0 million t between 2010 and 2024, while the overall capacity, including on Sakhalin, increased from 59.5 to 109.5 million t.

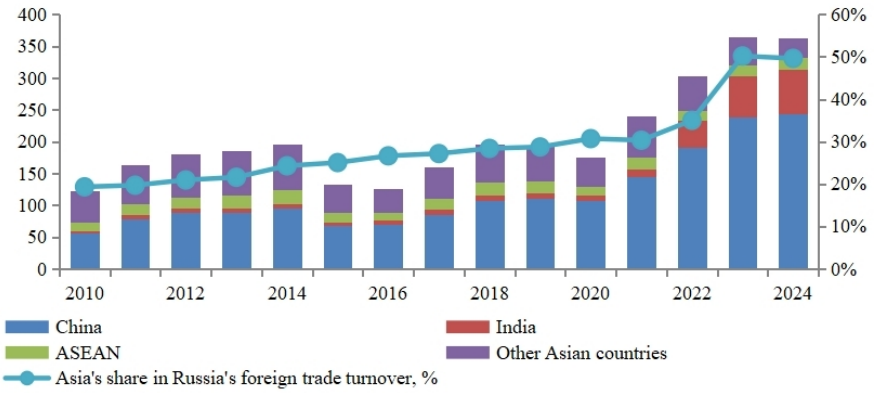

Figure 1. Russia's foreign trade turnover in goods with Asian countries, billion US dollars.

Source: General Administration of Customs of China, Ministry of Commerce of India, ASEAN Statistical Database, and International Monetary Fund.

Bilateral relations have developed particularly rapidly since the start of the conflict in Ukraine. From 2021 to 2024, exports increased 1.67-fold, while imports increased 1.29-fold. Cumulative sales to Asia since 2010 have amounted to approximately $1.9 trillion, including $0.7 trillion, or 36.0% of total shipments from Russia, after the imposition of large-scale sanctions in 2022.

Russia's exports of goods to Asia expanded at a faster pace than imports. In 2024, exports amounted to approximately $230.7 billion, while imports amounted to $132.9 billion. During the period under review, a decline in exports and imports was observed over three periods (**Figure 2**). Shipments from Russia to Asian countries declined during 2014–2016, 2019–2020, and 2024; to Russia—2015, 2020, and 2022.

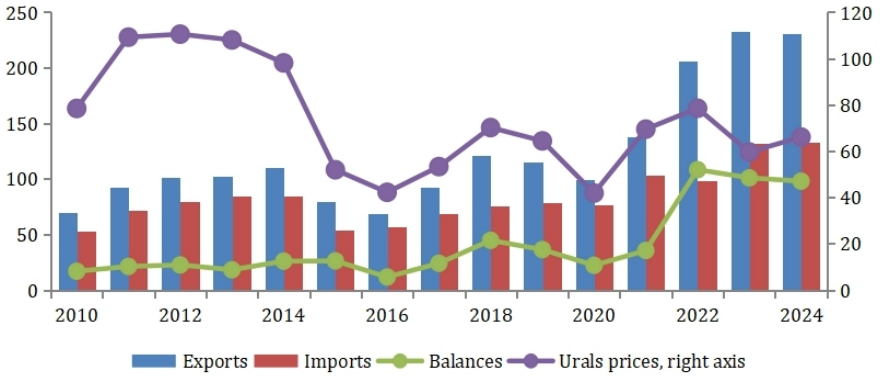

Figure 2. Russia's export-import operations with Asia, billion US dollars (left scale) and the price of Urals oil, dollars/bbl (right scale).
Source: General Administration of Customs of China, Ministry of Commerce of India, ASEAN Statistical Database, International Monetary Fund, and OPEC Monthly Report.

In 2014–2016, a decrease was noted in the volume of Russian merchandise exports to Asia from 110.6 to 68.8 billion dollars (by 37.8%), and imports from 84.8 to 57.2 billion dollars (by 32.5%). In 2020, the scale of the decline in mutual trade slowed down compared to 2018, to 10.5%, while the import of goods increased by 1.2%, to 77.0 billion dollars, and export decreased by 17.9% to 99.1 billion dollars. By the end of 2022, Russia's foreign trade turnover with Asia increased by 26.1%, to 304.0 billion dollars, as a result of an increase in goods exports by 49.0%, to 206.1 billion dollars. In 2023–2024, the scale of mutual trade slowed as a result of a decline in coal and LNG supplies (in value terms). According to national agencies, in 2024, exports of these goods decreased by 37.7%, to $17.9 billion, including coal by 47.6%, to $8.0 billion, and LNG by 26.3%, to $9.9 billion. The main reduction in coal and LNG supplies was experienced by Japan and South Korea, which began purchasing more from countries in the Middle East (LNG and oil), Indonesia, and Australia (coal and LNG).

It is important to note that exports declined primarily during periods of falling Urals oil prices, with the exception of 2023–2024, indicating Russia's single-commodity specialization. By the end of 2024, despite the increase in the cost of liquid hydrocarbons, exports had fallen by $2.3 billion to $230.7 billion as a result of maritime infrastructure constraints in the supply of oil and petroleum products to the Asia-Pacific market. Thus, further expansion of fuel and energy product supplies is virtually impossible without the construction of new ports or the expansion of existing ones. In 2026, the Russian government, together with the Russian Ministry of Energy, plans to expand the capacity of four bulk ports—Primorsk, Ust-Luga, Novorossiysk, and Kozmino—to 3.8 Mb/d, or about 190.0 million t, which is 1.0 Mb/d above the 2024. However, these measures are not enough to restore oil exports to the 2019 level of 268.4 million t.

Russia's overall trade surplus with the Asia-Pacific region increased 5.8 times to $97.9 billion. The trade imbalance ratio (net balance to turnover ratio) in Russia's favor was 26.9%. With China, it was 5.5%, ASEAN countries—33.1%, other Asian countries—59.7%, and India—85.8%. If we exclude fuel and energy products (HS code 27) from Russia's merchandise exports, the ratio will look like this: for Asia as a whole: −39.1%, China: −54.3%, and ASEAN: −23.6%. A positive value is observed only in relation to India (excluding petroleum oil), since the basis of bilateral Russian-Indian relations lies in the volume of exports of fertilizers, precious metals and agricultural products.

The trade imbalance with the Asia-Pacific region is explained by the relatively large supplies of raw materials

from Russia, as well as the low competitiveness of Russian investment goods on the global market. It can be expected that with technological development, including increased supplies of military-industrial products after the end of hostilities in Ukraine (due to significant excess capacity), these imbalances in foreign trade will decrease. According to estimates by the Center for Analysis of World Arms Trade, in the next 3-5 years after the end of the conflict in Ukraine, Russian arms export volumes will amount to approximately $15-17 billion per year.

2.2. Structure of Russian Exports

Russian exports to the Asia-Pacific region were dominated by raw materials (primarily oil and coal) and products with low value added. There was no change in the commodity structure of Russian exports to Asia-Pacific countries (**Table 1**). In 2024, the share of fuel and energy products was 60.9%. Moreover, the share of crude oil steadily increased—from 33.2% to 52.5%, despite the voluntary withdrawal of Japan and South Korea, once the largest importers of Russian liquid hydrocarbons.

Table 1. Structure of Russian exports to Asia-Pacific countries, billion dollars.

HS Code	Name	2010	2015	2020	2024
01–24	Food products and agricultural raw materials	3.3	4.0	7.5	12.9
25–27	Mineral products	39.2	49.9	57.8	173.5
27	Fuel and energy products	37.7	48.4	53.8	167.7
28–40	Chemical products, rubber	5.8	4.4	4.6	9.5
41–43	Leather raw materials, furs and products made from them	0.0	0.0	0.0	0.1
44–49	Wood and pulp and paper products	4.6	5.1	6.1	6.0
50–67	Textiles, textile products and footwear	0.0	0.0	0.1	0.0
72–83	Metals and metal products	9.0	7.3	9.8	10.8
84–87, 90	Machinery, equipment and vehicles	0.6	0.9	0.8	1.5
	Other goods	2.2	2.8	5.8	3.5
	Total	64.8	74.5	92.5	217.9

Note: Compiled for China, India, Japan, South Korea and ASEAN countries.
Source: Calculations based on data from the General Administration of Customs of China, the Ministry of Commerce of India, the ASEAN Statistical Database, and the International Monetary Fund.

In value terms, Russian oil exports to Asia-Pacific countries increased 5.3-fold to $114.4 billion, with the two largest buyers—China and India—accounting for approximately 112.4% of the increase. From 2010 to 2024, oil shipments to ASEAN countries decreased by $1.6 billion, or 2.8-fold, to $0.9 billion, while imports of petroleum products from Russia increased 1.7-fold to $5.0 billion. Exports of LNG and pipeline gas to the Asia-Pacific region increased by only $14.5 billion, to $17.9 billion [5,6].

Even Russian LNG [7] supplies to Asia (**Figure 3**), both in physical and value terms, have been declining recently due to higher prices on the European market, which makes the market more attractive, the short transport route to the EU, and the lack of adequate infrastructure on the Northern Sea Route. It's worth noting that Russian LNG is primarily exported via the NSR and the Cape of Good Hope, with the majority via the latter. Experts estimate that in 2024, while approximately 2.6 million t were delivered to Asian consumers via the NSR [8], 2.8 million t were shipped via the Cape of Good Hope (**Figure 4**).

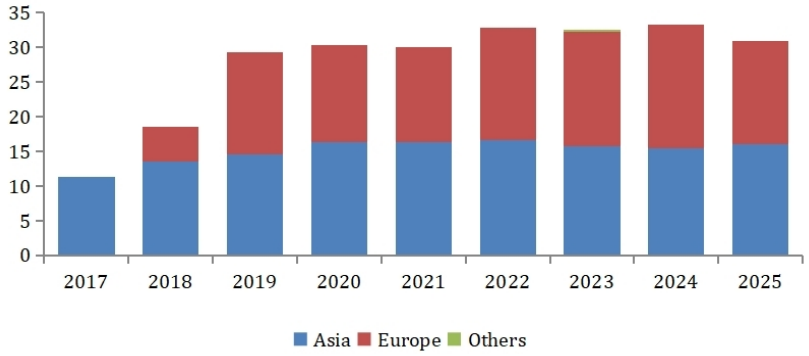

Figure 3. Russia's LNG exports by destination, million tons.

Source: Evans [7].

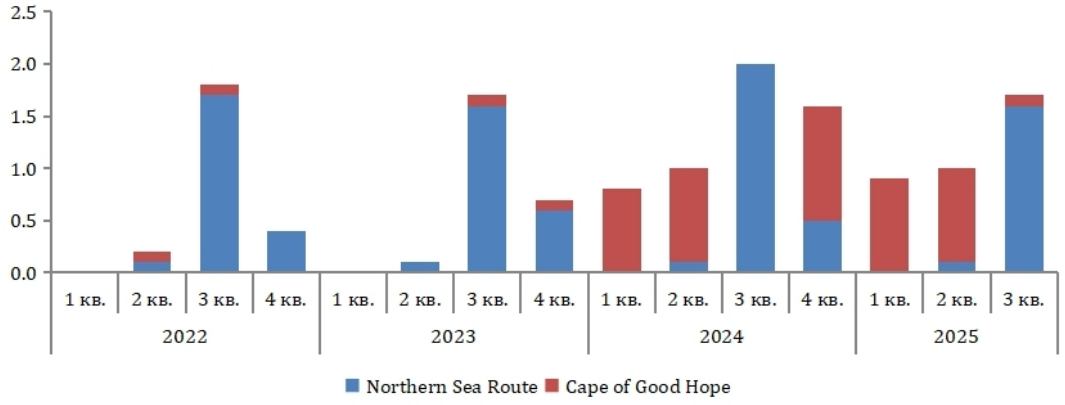

Figure 4. Russia's LNG exports to Asian consumers from Arctic projects, million tons.

Source: Sultan [8].

The volume of trade in metallurgical products in total decreased from 13.9% to 12.0% and timber and pulp and paper products—from 7.1 to 6.6%. The export of investment goods is negligible—only 0.7%, which is 0.3 percentage points lower than in 2010, although in absolute terms, it increased by 2.42 times to $1.52 billion.

In 2025, Asia's share of Russia's LNG exports amounted to approximately 51.6%, which is 2.7 percentage points lower than in 2021 [9]. In terms of countries, in 2025, LNG was mainly exported to China (7.1 million t, a decrease of approximately 0.1 million t), France (6.3 million t), Japan (5.9 million t, an increase of approximately 0.2 million t), and Belgium (4.2 million t, −0.2 million t). Also, South Korea from Russian plants increased by 0.6 million t, to 2.5 million t (**Figure 5**).

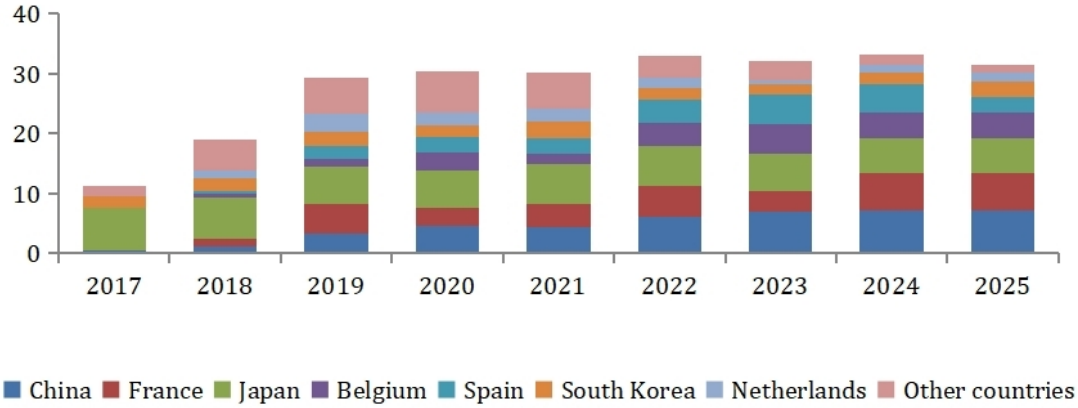

Figure 5. Russia's LNG exports by destination (by countries), million tons.

Source: Pepper [9].

Sakhalin-2 is the only plant in Russia that sends all its produced LNG to the Asia-Pacific region [10], with the exception of 2009–2010 (when minor deliveries were made to Kuwait). China's share was approximately 28%, while Japan's was 56.6% (**Figure 6**). In 2025, the UK imposed sanctions on this project. However, the key insurers of the tanker fleet are Japanese companies (**Table 2**). They, as noted above, are interested in increasing LNG imports from Russia (to diversify their supplies) or maintaining them at current levels, making the project less vulnerable to restrictions. Furthermore, Japanese corporations have agreed to reinsure approximately 3.2 million t in the future (insured under British jurisdiction).

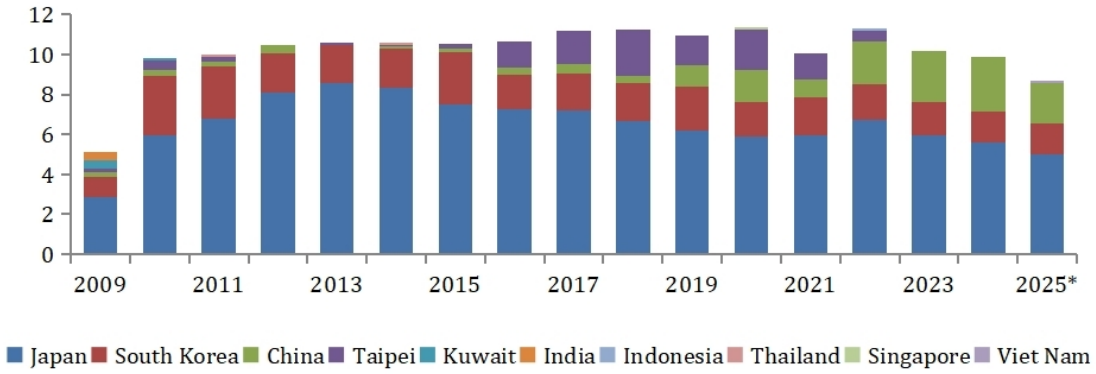

Figure 6. LNG exports from the Sakhalin-2 plant, million tons.

Note: * January–October 2025.
Source: Junnola [10].

Table 2. Tanker fleet of the Sakhalin-2 project.

Name	IMO Number	Own	In Adelets	Insurance Company	Volume of LNG Transported in 2025
Regular Tankers					
Grand Aniva	9338955	Sakhalin Energy	NYK	Japan Ship Owners' P&I Association	0.71
Grand Elena	9332054	Sakhalin Energy	NYK	Japan Ship Owners' P&I Association	0.71
Grand Merey	9338929	Sakhalin Energy	MOL	Japan Ship Owners' P&I Association	0.64
Xinhang Energy	9210828	Sakhalin Energy	Xinhang Shipping	Skuld (Norway)	0.24
Charter Tankers					
Grace Dahlia	9540716	NA	NYK	UK P&I Club	0.50
Cygnus Passage	9376294	Jera	NYK	Gard (Norway)	0.83
Pacific Arcadia	9621077	Tepco	NYK	UKP&I Club	0.75
Energy Navigator	9355264	Tokyo Gas	MOL/Tokyo Gas	Japan Ship Owners' P&I Association	0.57
Energy Advance	9269180	Tokyo Gas	MOL/Tokyo Gas	Japan Ship Owners' P&I Association	0.57
Grand Space	9323675	NA	Bernhard Schulte Shipmanagement	Skuld (Norway)	0.46
Hyundai Ecopia	9372999	Kogas	Hyundai	Charles Taylor & Co (UK)	0.07
K. Jasmine	9373008	Kogas	Korea Line	UKP&I Club	1.27
Blue Dragon 1	9315393	ChinMuiXo	Yadana Shipping	The West of England Shipowners	0.57
Sun Arrows	9349942	Hiroshima Gas	MOL	Japan Ship Owners' P&I Association	0.04
Trader Ii (Inactive)*	9238038	PetroChina	Lyra Trading	NA	0.24
Energy Frontier *	9245720	Tokyo Gas	MOL	Japan Ship Owners' P&I Association	0.32
LNG Dream *	9277620	Osaka Gas	NYK	UKP&I Club	0.13
LNG export volume insured in UK jurisdiction					3.16
Total					8.62

Note: * Tankers withdrawn from the project.
Source: Junnola [10].

In the current situation, Russia could fall into a trap where dependence on one or two consumers could lead to a reduction in production at the plant as a whole. Given that the global gas market is currently experiencing a second LNG renaissance, this scenario is entirely possible. According to estimates by the Norwegian company Rystad, by 2040, production at the Sakhalin-2 project could decrease by a factor of 3.2 times, to 3.0 million t.

Other LNG plants—Yamal LNG and Arctic LNG 2—are also exported to the Asia-Pacific region. Given that the latter is included in the SDN list, the only export destination is Asia, but the volumes are small.

From another large-scale project, Yamal LNG [11], which was not formally subject to blocking measures from the US and the EU, LNG supplies in 2025 decreased by 8%, to 20.4 million tons, due to repair work in July-August, according to Kpler estimates - 19.4 million tons, the majority of LNG was exported to EU countries - 14.9 million tons (−5.9% y/y), and a smaller part - to Asia (4.5 million tons, −13.7% y/y) (**Figure 7**).

Since June 2025, LNG supplies to China have begun from a new Russian project, Arctic LNG 2—1.23 mln t. The cost of LNG for Chinese consumers was approximately $549.50 per ton.

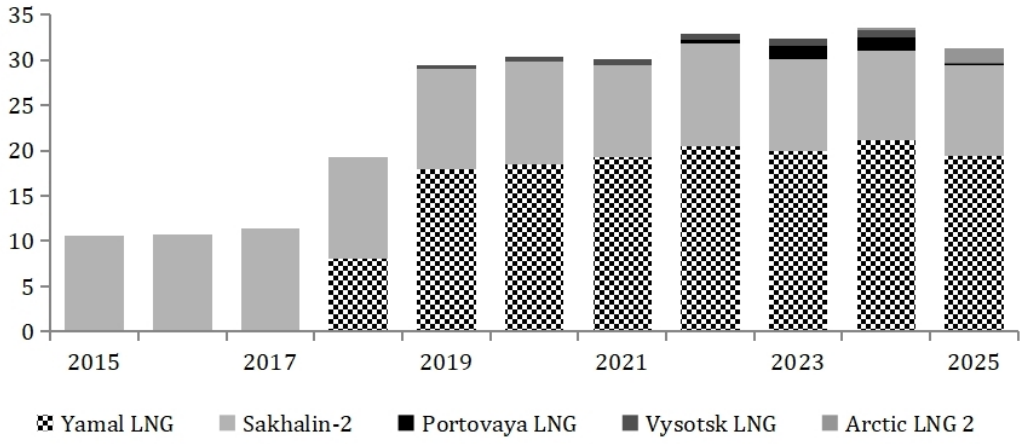

Figure 7. Russia's LNG exports by plants, million tons.

Source: Kelly [11].

Sanctions have certainly impacted imports of Russian LNG, but they have not had a significant impact on existing projects or foreign direct investment from Asian countries that have joined Western sanctions, such as Japan. Despite the restrictions imposed on the gas industry, Russia retained its fourth place among the world's largest LNG exporters, although its position has declined somewhat, mainly due to the United States (as a result of the commissioning of new projects in 2025). Thus, in 2025, Russia's LNG exports decreased by 6.0%, to 31.3 million t, and its share by 0.8 percentage points, to 7.3%, while the US share increased by 4.3 percentage points, to 25.4% (**Figure 8**). In 2026, as a result of the increase in exports from the Arctic LNG 2 project from 1.3 to 5.7 million t, which is equivalent to approximately 9.6% of new supplies, Russia's LNG exports will amount to approximately 37 million t. In total, in 2026, global LNG exports will increase by 10.7%, to 475.3 million t, thanks to the United States and Qatar.

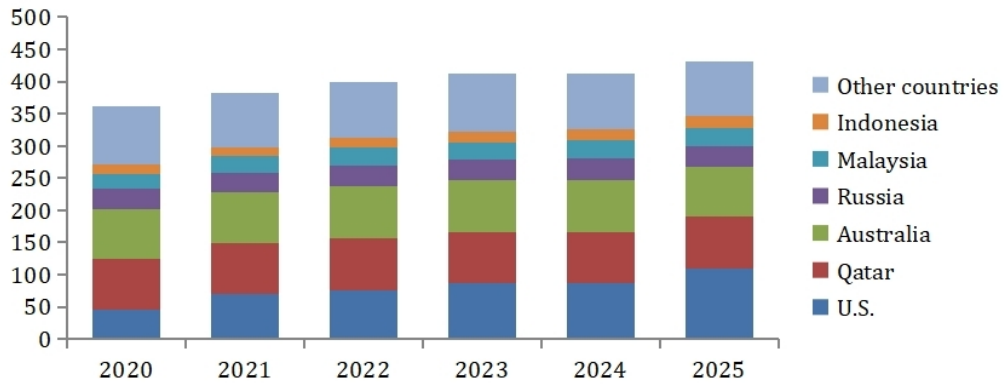

Figure 8. Largest LNG exporting countries, million tons.

Source: Evans [7]; GIIGNL.

Thus, the restriction issue has become a significant challenge to bilateral relations. However, developed Asian countries, unlike European ones, can participate in projects to extract oil and gas from tight formations, as well as in new LNG plants. The ban only applies to equipment supplies to Russian refineries. However, the peak of modernization of domestic oil refineries occurred between 2010 and 2019, so the restrictions imposed may only delay their modernization schedules.

Russia is interested in engaging Japanese companies as partners in exploration and production projects onshore and offshore in Russia. Furthermore, prospects for cooperation in the storage, processing, and blending of domestic oil and petroleum products at Japanese facilities were discussed with Japanese partners.

2.3. Russian LNG in Asia

From 2021 to 2024, Russia's share of Asian LNG imports increased by 0.5 percentage points to 7.0% (**Figure 9**), primarily driven by China, while the US share declined from 12.5% to 10.0%, including from 11.4% to 5.4% in the Chinese market.

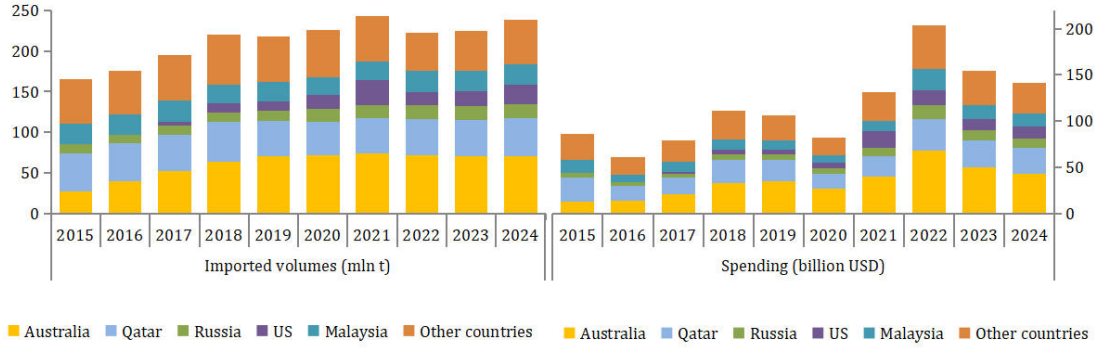

Figure 9. Russia's LNG exports by plants, million tons.

Source: Asian customs data.

Russian LNG is considered the most premium energy source in Asia compared to Australian, Qatari, and North American LNG. In 2024, the average annual import price of 1 t of liquefied natural gas from Russia was approximately $608.4, which is 14.9% higher than LNG from the US, 1.4% higher than LNG from Qatar, and 0.3% higher than LNG from Australia. This is despite the fact that the costs of LNG production and liquefaction in Russia are lower than in Australia and the US.

At the same time, from 2021 to 2024, the price of Russian LNG for Asia increased by only 6.3%, which is 14.8 percentage points lower than Qatari prices and 5.1 percentage points lower than Australian prices. The average contract price for 1 t of US liquefied natural gas during the period under review decreased by 12.5% to $529.3, which is primarily due to an increase in production at the largest US plant, Sabine Pass, from 25.5 to 30.1 million t per year. Cheniere Energy, Inc. (the plant's owner) plans to further expand the project's capacity by 16.8 million t (two trains of 8.4 million t each), which will make American LNG more accessible to buyers in Asia.

2.4. Russian Gas in China

LNG is already playing a less prominent role in consumption than pipeline gas. Thus, in 2025, the share of LNG in consumption was about 20.0%, which is 7.9 percentage points lower than in 2021, and in gas imports—53.5%. If we talk about Russian LNG, it has already won its niche in the Chinese market, practically displacing Malaysian supplies—if previously its volumes did not exceed 6.0 million t, then by the end of 2025—7.1 million t. Thus, in 2025, the share of Russian LNG in China's imports was 10.6%, which is 6.0 percentage points higher than in 2019, while Malaysian LNG decreased by 1.0 percentage point, to 11.1%.

In 2026, these trends will reverse: gas imports will increase by 5.1–7.4%, to 185.4–189.4 billion m^3, including 8.9–13.1% due to LNG, to 103.0–107.0 billion m^3. This process will be facilitated by: firstly, a decrease in LNG spot prices on the Asian market; secondly, the construction of new regasification terminals for receiving LNG, in 2025 the capacity of which was increased by 53.0 million t, to 210 million t; and, thirdly, the conclusion of new long-term contracts in 2025 for an additional 14.34 million t, mainly with Middle Eastern countries.

As for Russian gas, according to Wood Mackenzie's forecast, the volume of exports from Russia to China by 2035 will amount to approximately 50.4 billion m^3, including 4.4 billion m^3 via the Power of Siberia 2, and by the end of 2050, their volume could grow to 102.0–106.0 billion m^3. Thus, starting in 2033, Russian and Turkmen pipeline supplies will actively begin to displace LNG, including American LNG. At the same time, the Russian side has an advantage: for Chinese consumers, domestic gas is cheaper than Central Asian gas. Estimates based on data from the General Administration of Customs of the PRC, in 2025, the average annual import price of gas from Russia decreased by 2.5%, to $250.6 per 1,000 m^3, which is 1.7% lower than the cost of gas from Turkmenistan.

Under the 15th Five-Year Development Plan, by the end of 2030, gas exports from Russia to China will reach

53.0 billion m^3, including 10 billion m^3 via the Far East route. Its share in consumption will increase by only 0.7 percentage points, to 9.6%, while LNG will increase by 7.9 percentage points, to 27.8%, or 153.0 billion m^3.

Longer term, gas looks poised to play a prominent role in China's energy mix. Executives at state-owned firms see Chinese gas demand rising by at least 50% over the next decade-plus. But with rising volumes of piped gas from Russia potentially flowing after 2030 and renewables offering a quicker path to decarbonization, higher-cost LNG sellers may find it difficult to gain market share. In its recent energy outlook, China National Petroleum Corp.'s (CNPC) research arm, CNPC ETRI, forecasts China's gas demand to grow from 553 Bcm in 2030 to a peak of about 618 Bcm in 2035 before slipping to 584 Bcm in 2045.

Along with China, gas demand will grow in India and Indonesia. Indian and Indonesian energy policies focusing on climate and environmental protection will remain the main driver of natural gas market development in these countries. According to the Gas Exporting Countries Forum (2024), natural gas demand in India will reach 223.0 billion cubic meters by 2050, with the main growth coming from industry and power generation. Active use of natural gas in transport will also be observed due to infrastructure development: the Indian government plans to increase the number of gas filling stations from 1,400 to 10,000 over the next decade and impose restrictions on the use of diesel trucks.

As for Indonesia, gas consumption will increase due to relatively high gross domestic product growth rates, which will outpace many Asian countries, government incentives to increase the share of gas in the national energy mix, and favorable macroeconomic factors, including rising birth rates and labor productivity. Thus, according to long-term global economic forecasts, from 2025 to 2050, Indonesia's average annual GDP growth rate (in constant 2015 prices) will be approximately 4.3% (compared to China's 3.7%), and its per capita GDP will increase 2.5-fold. Consequently, the country's contribution to Asia's regional development will also increase from 3.6% in the period from 2010 to 2024 to 5.1% in 2025–2050.

Already by 2029-2030, Indonesia's GDP (based on PPP in constant 2015 prices) will surpass Japan's (although lower in constant prices due to the undervalued national currency), and its gas consumption will surpass Japan's in 2050.

As GDP increases, poverty and social inequality will decrease, which will contribute to both increased gas demand and the transition to expensive, efficient technologies. The government has also set ambitious goals for domestic gas production. According to the Oil and Gas Strategic Plan (IOG 4.0), gas production will reach approximately 124.0 billion cubic meters by 2030, resulting from the development of 133 oil and gas projects.

Under the optimistic scenario of the Russian Ministry of Energy for 2026, the capacity of all Russian LNG plants in Russia could be increased by 24.6 million t to 67.0 million t. Thus, by 2030, Russia could additionally supply up to 59 million t of LNG to China (excluding contracted supplies from Japan and South Korea), or approximately 81 billion m^3 (**Table 3**).

Table 3. Russian large- and medium-sized LNG projects.

Project	Key Shareholder	Location	Nameplate Capacity (Million t/Year)	Launch	Note
Operational					
Sakhalin-2	Gazprom	Far East	9.6	2009	Exported 10.3 million t in 2025.
Yamal LNG	Novatek	Arctic	17.4	2017	Exported 19.4 million t in 2025.
Cryogas Vysotsk	Novatek	Northwest	0.66	2019	Blacklisted by the US in 2025. Exported 110,000 t in 2025.
Portovaya LNG	Gazprom	Northwest	1.5	2022	Blacklisted by the US in 2025. Exported 290,000 t in 2025.
Arctic LNG 2, Trains 1–2	Novatek	Arctic	13.2	2023	Blacklisted by the US in 2023. Exported 1.2 million t in 2025.
Total			42.4		
Development Stage					
Ust-Luga	Gazprom	Northwest	13.0	2027–2028	Blacklisted by the US in 2024.
Obsky LNG	Novatek	Arctic	5.0	2031–2032	Blacklisted by the US in 2024.
Total			18.0		
Proposed					
Arctic LNG 2, Train 3	Novatek	Arctic	6.6	2030	Construction Suspended Due to Sanctions.
Murmansk LNG	Novatek	Northwest	20.4	2033–2035	Blacklisted by the US in 2024.
Total			27.0		

Source: Russian Ministry of Energy.

This forecast appears quite optimistic, especially given the restrictions on debt financing and the technology embargo imposed by the US and the European Union, which limit gas production opportunities on the Russian Arctic offshore.

Cutting off debt financing for the largest Russian companies will lead to a number of negative consequences. First, it is likely that domestic borrowed resources will shift toward the largest companies, which will need to compensate for the lack of external financing. This, among other things, could lead to a drain on credit resources from mid-sized businesses, including from economic activities related to the mineral extraction sector. At the same time, it is possible that the gas sector will be forced to increase its own investment in direct support for shipbuilding, certain segments of mechanical engineering, and services. Second, difficulties with refinancing on the open market will require the extraction of greater resources to service debt, which will also negatively impact the investment opportunities of energy holdings.

In the worst-case scenario, the continuation of the sanctions regime in the long term will likely lead to the creation of a kind of "cutoff level" for gas production projects with high capital intensity. This primarily applies to production in hard-to-reach areas, the Arctic offshore, and the extraction of hard-to-recover reserves. According to our estimates, such a development could lead to a significant change in the export profile through 2045 (**Figure 10**).

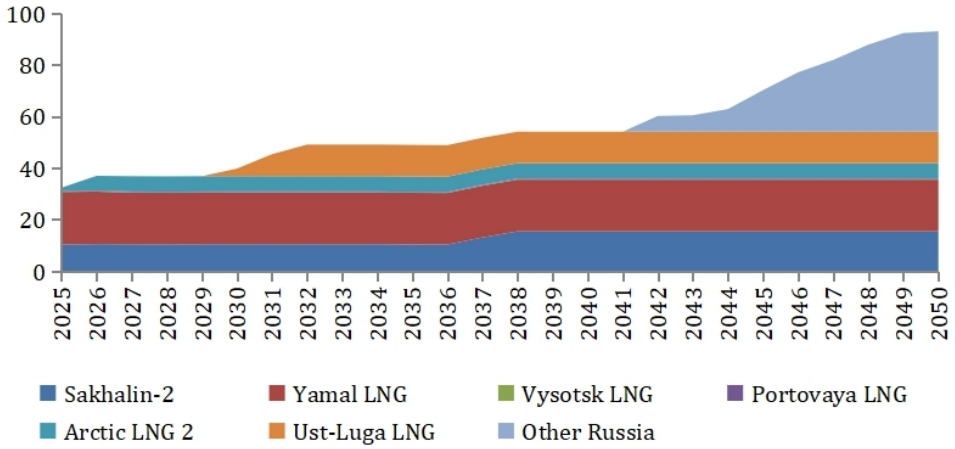

Figure 10. Russian delivered supply by project (baseline scenario), MMt.

Source: Author's calculation.

Compared to the baseline scenario, LNG export volumes could decline by 58.6% by 2045. The supply gap will be particularly severe after 2046, when yields at older fields decline significantly and production maintenance measures will no longer be able to compensate for this decline.

2.5. Structure of Russian Imports

The bulk of Russian imports from Asia are goods of medium and high processing value (**Table 4**), such as machinery and equipment, vehicles (56.2%), textiles and textile products (15.6%), and chemical products (9.9%). It is worth noting that, due to the development of agriculture within the country, imports of agricultural products in relative terms decreased by 0.6 percentage points to 9.3%, but in absolute terms they increased by 1.96 times, to $6.3 billion, with the largest increase coming from ASEAN (1.88 times, to $2.24 billion) and China (2.0 times, to $2.92 billion). Supplies from Japan, South Korea and India increased by 2.0 times, to $1.2 billion.

Table 4. Structure of Russian imports from Asia-Pacific countries, billion dollars.

HS Code	Name	2010	2015	2020	2024
01–24	Food products and agricultural raw materials	3.2	3.6	3.5	6.3
25–27	Mineral products	0.5	0.4	0.4	0.8
28–40	Chemical products, rubber	4.4	5.1	8.1	17.9

Table 4. *Cont.*

HS Code	Name	2010	2015	2020	2024
41–43	Leather raw materials, furs and products made from them	1.6	2.6	2.4	1.0
44–49	Wood and pulp and paper products	0.6	0.5	0.6	1.3
50–67	Textiles, textile products and footwear	8.2	9.5	8.1	10.9
72–83	Metals and metal products	3.6	3.4	4.6	7.8
84–87, 90	Machinery, equipment and vehicles	24.5	21.7	37.6	78.8
	Other goods	3.6	3.8	6.5	8.4
	Total	46.8	46.2	65.9	127.1

Note: Compiled for China, India, Japan, South Korea and ASEAN countries.
Sources: Calculations based on data from the General Administration of Customs of China, the Ministry of Commerce of India, the ASEAN Statistical Database, and the International Monetary Fund.

China, as the world's largest economy by GDP (in 2024, China's share of global GDP at PPP, in constant 2021 prices, was 19.3%, while the United States—14.7%) and the global leader in export-import operations (in 2024, China's share in global goods exports was 14.6% and services—5th place—5.1%) is a key trading partner with 67.3% of Russia's total trade turnover with the Asia-Pacific region. At the same time, China's share in goods imports from Asia is 86.9%. The export direction is more diversified—55.9% (the remaining volumes go to India and ASEAN countries, about 33.1% in total).

From 2010 to 2025, the volume of mutual trade, according to the General Administration of Customs of the People's Republic of China, increased by 4.1 times, to 228.1 billion dollars (although in 2025 there was a decrease in the indicators of export-import operations by 6.7%, mainly due to imports), including exports from the People's Republic of China—3.5-fold, to 103.3 billion dollars, imports—4.8 times, to 124.8 billion dollars. In the structure of Chinese imports from Russia, as in general trade with the Asia-Pacific region, the main share of supplies was accounted for by fuel and energy products (mainly oil, coal and pipeline gas, to a lesser extent—oil products and LNG), and their share increased from year to year. Thus, while in 2010, total oil supplies to China accounted for only 34% of Russia's total exports to China, by the end of 2025, their share had reached 39.9% (a decline was observed in 2025 due to lower oil prices and physical volumes). The opposite situation was observed for petroleum products—a decline from 9% to 4.4%.

Cooperation within the BRICS (Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, the United Arab Emirates) framework allows China to meet its growing energy needs at relatively low prices. China ranks first in the world in terms of energy imports. Specifically, China's share of global oil imports in 2024 was 19.3%, natural gas—15.5%, including LNG—19.3%, pipeline gas—12.0%, and coal—32.3% [2].

At the same time, Russia ranks only seventh in China's exports and sixth in imports. Meanwhile, the share of Russian products in the added value of Chinese goods exported (2022 data) is 2.1% (down from 3.4% in 2013), including 1.8% for raw materials.

Back in 2009, the two countries signed an agreement on cooperation in the oil sector. Russia is one of the largest oil suppliers to China. In 2024, according to the General Administration of Customs of the People's Republic of China, its share was 19.6% (Saudi Arabia's was 14.2%). At the same time, 37% of raw materials (about 0.8 Mb/d) were supplied under long-term contracts between Rosneft and the China National Petroleum Corporation (CNPC). Liquid hydrocarbon imports to China are unlikely to increase in the coming years [12], as the country is experiencing rapid growth in sales of vehicles powered by new energy sources, primarily electric vehicles [13], and an aging population.

The reason for this difference is that LNG is more expensive than oil on the domestic market. According to estimates by the General Administration of Customs of the People's Republic of China, the price of 1 t of LNG in 2025 was approximately $518.4 per ton (**Figure 11**), which is 1.0% higher than the price of oil (14.4% in 2022). To increase supplies of this product, Russia needs to address two issues: a shortage of ice-class tankers to increase deliveries via the NSR (especially in the first quarter of each year) and technology. As the author of the article noted in his earlier works, the overwhelming majority of existing LNG production capacity (more than 97%) in Russia is built using foreign technologies [14]. However, according to the investment plans of domestic companies and the Ministry of Industry and Trade of the Russian Federation, the share of foreign solutions should significantly decrease by 2030.

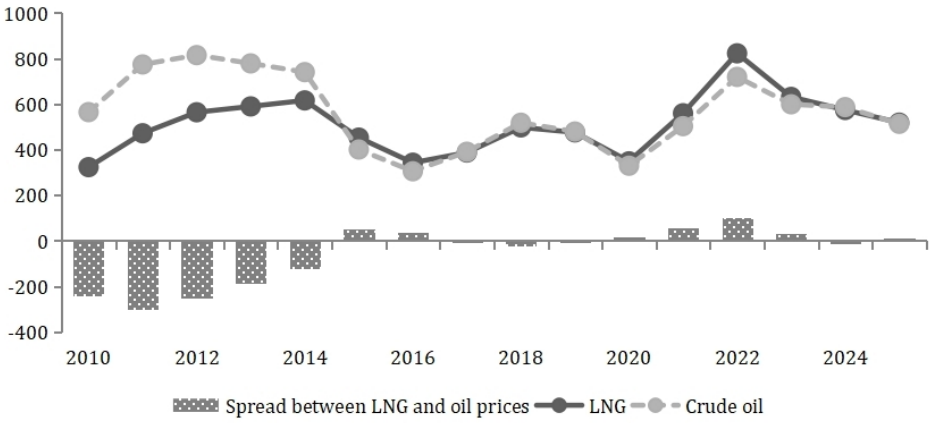

Figure 11. Import price of oil and LNG for Chinese consumers, USD/t.
Source: Compiled based on data from the General Administration of Customs of the People's Republic of China.

Another problem facing existing domestic LNG projects is the shortage of gas carriers. This has been exacerbated by anti-Russian sanctions, which have also impacted export deliveries due to potential buyers of liquefied gas refusing to participate due to concerns about the risk of their accounts being blocked, as well as for political reasons, which became fully evident in 2023–2024.

3. Conclusions

Assessments of further dialogue between Russia and Asian countries are conflicting. Among both Russian and international experts, one viewpoint predominates: export-import operations are developing, but not at the desired pace, including along the new pipeline route from Russia to China. The sanctions agenda against Russia and the largest hydrocarbon consumers, politically and economically dependent on the EU and the US, further complicates matters.

Thus, in 2025, the United States introduced increased tariffs on goods from India, as part of a plan to reduce the country's dependence on oil supplies from Russia. This measure led to a decrease in the import of liquid hydrocarbons from Russia. According to the analytical agency Kpler, in January 2026, oil imports from Russia to India amounted to 1.27 million barrels per day, which is 31.7% lower than in November 2025 [15]. The same applies to China: in 2025, oil imports from Russia decreased by 6.9% (compared to the 2024 level), to 2.0 million barrels per day, while imports from Venezuela increased by 43.8%, to 341.0 thousand barrels per day.

At the same time, overall for 2025, Russia's oil exports actually remained at the 2024 level—4.73 Mb/d, and taking into account oil products, it decreased by only 1.6%, to 7.13 Mb/d [16], as a result of periodic refinery shutdowns following "external impacts". Based on the distribution of petroleum product exports, the majority went to Asia—36.6%, which is 1.4 percentage points lower than the previous year (due to a reduction in fuel oil supplies), followed by Turkey (21.6%), Africa (18.9%), the Middle East (12.1%), and the countries of South and Central America (9.8%).

This leads to the first problem that needs to be addressed: Russia's suboptimal trade specialization in the Asia-Pacific region. Commodities account for over 70% of exports (and 80% for some countries), leading to dependence on oil prices, as was the case with the European Union. At the same time, Russia imports investment-grade products from the Asia-Pacific region, primarily mechanical devices, equipment, and electrical goods needed for the country's modernization.

The second difficulty stems from the first. These imbalances point to Russia's exclusion from global value chains and its status as the largest supplier of raw materials such as oil, coal, and pipeline gas, and to a lesser extent, petroleum products and LNG. Moreover, major Asian countries, such as China, could replace Russian supplies, including from Venezuela. According to estimates by the French company Kpler, if in 2025 oil exports from Russia to China were to decrease by 6.9%, to 2.0 million barrels per day, while Venezuelan crude oil production increased by 43.8% to 391,000 barrels per day. Kazakhstan and Iran also see opportunities to increase crude oil production, in

the former case due to the development of new fields with the participation of Asian investors, and in the latter, due to available capacity. It is worth noting that recently, China has been increasingly importing liquid hydrocarbons from countries subject to strict sanctions by the US and the EU. While their share was 20.4% in 2021, it is expected to reach 32.7% in 2025. The main increase came from Russia and Iran.

Moreover, Asia is the largest buyer of LNG [17], which cannot be said for pipeline gas (the spread between Russian pipeline gas and LNG is approximately $126.0 per 1,000 m^3 [18]), and demand for it will only grow. According to industry experts, by 2032, LNG consumption in the Asia-Pacific region will reach 415 million t in the baseline scenario and 461 million t in the alternative scenario [19]. According to IGU [20] and IEEJ [21], by 2050, LNG demand in Asia will increase 3.2-fold, to 489.3 million t, and will be 15.6-fold higher than European levels.

Increasing exports of finished investment products is the basis for Russia's inclusion not only in integration processes but also in the international division of labor in the Asia-Pacific region. In this situation, the expanded presence of Asian investors in the Russian fuel and energy sector, including in new LNG projects, could provide a strong impetus to the development of multilateral relations.

Given that final investment decisions for the construction of new LNG plants have been made for five projects in the US in 2025 [22,23], the main growth in consumption in the Asia-Pacific region (with a decline in the EU) will come from the US and the Middle East (due to Qatar). Without developing a domestic LNG carrier shipbuilding industry and technologies, Russia will be unable to expand its presence in this attractive market.

The launch of gas carriers will not only increase LNG exports to Asia but also create a multiplier effect on other sectors of the Russian economy, positively impacting economic growth and the structure of added value within the country [24]. Therefore, if development programs in these two areas are not developed, a rewrite of the Energy Strategy will be necessary, but in the longer term. Inaction on the part of the machine-building and shipbuilding industries could significantly impact Russia's global export position, and the goal of 20% (Russia's share of global LNG exports by the end of 2035) will be forgotten [25].

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References

1. Sechin, I.I. The global oil market and Russia's energy strategy under sanctions. *Vestn. Inst. Econ. Russ. Acad. Sci.* **2026**, *1*, 133–155.
2. Energy Institute. *Statistical Review of World Energy 2025*. Energy Institute: London, UK, 2025. Available online: https://www.energyinst.org/statistical-review/home
3. Organisation for Economic Co-operation and Development (OECD). Population. Available online: https://www.oecd.org/en/data/indicators/population.html (accessed on 6 April 2026).

4. IHS Markit. *Eurasian Oil Export Outlook*. IHS Markit: London, UK, 2021.
5. Kondratov, D. Prospects for Russian gas in China. *Far East. Stud.* **2023**, *4*, 46–72. (in Russian) [CrossRef]
6. Kondratov, D. China's natural gas market and Russian export outlook. *Vestn. Russ. Acad. Sci.* **2023**, *93*, 1057–1070.
7. Evans, C. *North American LNG Exports Surge in 2025*. Sultan, M., Ed.; Energy Intelligence: New York, NY, USA, 2026. Available online: https://www.energyintel.com/0000019b-7fc6-dca1-a3ff-ffef85bd0000
8. Sultan, M. *Russia's Arctic LNG 2 Readies for Northern Sea Route Closure*. Energy Intelligence: New York, NY, USA, 2025. Available online: https://www.energyintel.com/00000199-c38b-d804-add9-cbaf429b0000
9. Pepper, T. *Sanctions Delay Russia's LNG Expansion Target*. Energy Intelligence: New York, NY, USA, 2025. Available online: https://www.energyintel.com/0000019b-6e19-dca1-a3ff-ffbf58090000
10. Junnola, J. *UK Services Ban on Russian LNG Complicates Sakhalin-2 Shipments*. Energy Intelligence: New York, NY, USA, 2025. Available online: https://www.energyintel.com/0000019a-a5d8-d9d2-a1be-f7ddad9a0000
11. Kelly, A. *Russia's Yamal LNG Exports Down 7% in 2025*. Energy Intelligence: New York, NY, USA, 2026. Available online: https://www.energyintel.com/0000019c-04b5-d7ea-a39e-5ffddf380000
12. Ulrich, J. *China-Russia Relations: A Quantum Leap?* European Parliamentary Research Service (EPRS): Brussels, Belgium, 2022. Available online: https://coilink.org/20.500.12592/x47qg7
13. Ostrovskii, A.V. The PRC economy: New horizons of its development till 2025. *Her. Russ. Acad. Sci.* **2024**, *2*, 73–85. (in Russian) [CrossRef]
14. Kondratov, D. Evolution of the Russian gas industry and prospects for its development. Available online: https://neftegas.info/articles/article/987 (in Russian)
15. Bloomberg. India Grabs Russian Oil Before Waiver Expiry as Market Tightens. Available online: https://www.bloomberg.com/news/articles/2026-06-25/apple-raises-mac-and-ipad-prices-to-counter-memory-shortages
16. Kelly, D. *Russian Crude Exports Jump in December, Remain Stable in 2025*. Energy Intelligence: New York, NY, USA, 2026. Available online: https://www.energyintel.com/0000019b-c15a-dddd-a5df-dd7a486f0000
17. Johnson, L. *China Gas Demand Poised for Growth amid LNG Uncertainty*. Energy Intelligence: New York, NY, USA, 2025. Available online: https://www.energyintel.com/00000197-2ea6-d30d-a79f-aea7f2f20000
18. Ritchie, M. *Russian Piped Gas Remains Cheapest in China*. Energy Intelligence: New York, NY, USA, 2026. Available online: https://www.energyintel.com/0000019b-e014-d184-a3fb-ecb6aad20000
19. Kondratov, D. The prospects for Russian gas exports. *Obshchest. Ekon.* **2026**, *1–2*, 207–228.
20. International Gas Union (IGU). *2024 World LNG Report*. International Gas Union (IGU): London, UK, 2024. Available online: https://www.igu.org/igu-reports/2024-world-lng-report
21. The Institute of Energy Economics, Japan. 451st Forum on Research Works on 17th Oct. 2025 "IEEJ Outlook 2026—Deepening Uncertainties Surrounding the Challenges of Energy Transition: A Widening Gap Between the Ideal and the Reality"—World Energy Outlook to 2050. Available online: https://eneken.ieej.or.jp/en/whatsnew/451.html (accessed on 6 April 2026).
22. Wood Mackenzie. *LNG Short-Term Outlook*. Wood Mackenzie: Edinburgh, UK, 2025.
23. Page, L. Natural gas and LNG: Top 5 market drivers for 2026. Available online: https://www.kpler.com/blog/natural-gas-and-lng-top-5-market-drivers-for-2026 (accessed on 6 April 2026).
24. Sechin, I.I. Zvezda shipyard project: Global implications and its influence on the Russian economy. *MGIMO Rev. Int. Relat.* **2024**, *17*, 7–30. (in Russian) [CrossRef]
25. Henderson, J.; Moe, A. *The Outlook for Russian LNG*. Fridtjof Nansen Institute: Lysaker, Norway, 2025. Available online: https://www.fni.no/publications/the-outlook-for-russian-lng#tile-2741