

# Russia and China: Cooperation in the Oil and Gas Sector

*Svetlana A. Gusarova*

Doctor of Economics, Associate Professor, Professor, Plekhanov Russian University of Economics, Moscow, Russia  
Email: s-gusarova@mail.ru

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## Abstract

This study examines the development of cooperation between Russia and China in the oil and gas sector, which is one of the key areas of mutually beneficial strategic interaction. Despite the global trend toward energy transition to low-carbon alternatives, oil continues to play an important role in the global economy. Recently, trade cooperation between Russia and China in the oil and gas sector has increased significantly, benefiting both countries. The study identifies the main directions of trade interaction between Russia and China in oil and gas.

**Keywords:** China, Russia, trade cooperation, oil and gas sector

## Introduction

Amid global uncertainty, Russia and China continue to expand mutually beneficial cooperation aimed at economic development and strategic partnership. In March 2023, during Chinese President Xi Jinping's visit to Moscow, a **joint statement** was signed by the President of the Russian Federation and the President of the People's Republic of China to deepen the comprehensive partnership and strategic interaction (President of Russia, 2023).

Between 2001 and 2021, trade turnover between the two countries increased 18.4 times, reaching USD 146.9 billion. In 2022, it reached USD 190.3 billion. By 2024, trade turnover is expected to reach USD 200 billion (RBC, 2023). Following the decline in Russia's trade with EU countries, China became Russia's leading trade partner at the end of 2022 (Financial Times, 2022). In turn, Russia accounted for 3% of China's total trade with other countries in 2022.

The growth of mutual trade has become particularly important due to **increasing Western sanctions against Russia**. One key area of trade cooperation is the oil and gas sector. As a result of sanctions, Russia redirected oil and gas exports from the West to the East, with a significant volume exported to China.

## Factors Reducing Global Oil Demand

Recently, fossil fuels have become less dominant in the global economy, being replaced by an increasing share of **renewable energy sources** and electrification. The transition to a low-carbon economy involves the use of new energy sources, including **low-carbon hydrogen**, modern bioenergy, and carbon capture, utilization, and storage. In low-carbon hydrogen, green and blue hydrogen dominate, with green hydrogen increasing in significance over time.

For example, oil demand is affected by **reduced use of petroleum products in road transport** and the increasing use of alternative (low-carbon) fuels for vehicles. Production and use of **electric and hybrid vehicles** are rising, along with biofuel and hydrogen-based fuels (e.g., ammonia, methanol) for aviation and marine transport. However, oil continues to dominate global markets. Efforts toward **net-zero emissions** have led to the use of sustainable aviation fuels (bio-jet fuels) and synthetic fuels for jet engines.

Bioenergy is gaining importance due to its dual benefits of **generating useful energy** and **negative carbon emissions**. In medium and heavy-duty freight, as well as long-distance buses, there is a gradual transition from diesel to hydrogen-based fuels, supporting the goal of zero harmful emissions.

Despite the need for oil in industrial production, China, like many European countries, pays great attention to the **electrification of road vehicles**.

Oil demand prospects depend on the speed of the energy transition. While developing countries show growing oil demand, developed countries show declining demand, indicating a **shift in the global oil market center**. Nevertheless, despite Western efforts to shift to low-carbon alternatives, oil continues to play a critical role in the **global energy system**.

### Changes in Global Oil Reserves

In the past decade, **shale oil reserves in the U.S. increased**, but now production is gradually declining as the most productive sites are depleted. Oil production in Russia is experiencing a **sustained decline due to geopolitical issues**, projected to fall from 11.5 million barrels per day in 2019 to 5.5–6.5 million barrels per day by 2035 (BP, 2023).

In this context, **OPEC countries are seeking to increase their market share** using more competitive strategies amid falling oil demand.

### Expansion of Russian Oil Exports to China

In 2022, Russia ranked second in oil exports to China. According to Chinese customs data, China imported **USD 88 billion** worth of energy resources (oil, gas, coal) from Russia in 2022, 1.5 times higher than in 2021 (Bloomberg, 2023).

Under the Russian-Chinese energy cooperation agreement for the Skovorodino–Mohe–Daqing pipeline, **annual oil supply from Russia to China will reach 30 million tons over 20 years**. The Russian section (Skovorodino–Mohe) was built by PJSC Transneft at a cost of 5.975 billion rubles. The Chinese section (Mohe–Daqing, 900 km) was completed in 2018.

Under a separate contract, **Rosneft will supply CNPC with 360 million tons of oil over 25 years for USD 270 billion**. Rosneft uses innovative sedimentological and regional modeling software to reduce exploration risks. To increase production efficiency, the company applies an **integrated approach**, creating a unified model considering reservoirs, wells, surface infrastructure, and economic calculations. Drilling is the most expensive stage, and cost reductions of up to 40% are achieved through **small-diameter wells, cluster drilling, and directional wells**.

In 2022, Russia exported **86.25 million tons of oil to China** (1.72 million barrels per day). For comparison, Saudi Arabia exported 87.5 million tons, Iraq 55.5 million tons, UAE 42.8 million tons, and Oman 39.4 million tons (Vedomosti, 2023). Exports in 2023 are projected to reach **2.2–2.5 million barrels per day**. China prefers Russian oil because of **discounted pricing**, which allows it to supply both domestic consumption and export petroleum products to Europe.

## Cooperation Between China and Russia in the Gas Sector

A promising area of cooperation under complex geopolitical conditions is **Russian gas exports via the Far East**. Russian gas exports to China benefit both countries.

In January 2023, Russia was the **leading supplier of natural gas to China** (2.7 billion m<sup>3</sup>, including 2 billion m<sup>3</sup> via Gazprom's Power of Siberia pipeline and 770 million m<sup>3</sup> as LNG), surpassing Turkmenistan (2.2 billion m<sup>3</sup>) and Qatar (Interfax, 2023).

Gas is transported via the **Power of Siberia 1 and 2 pipelines**, with a future extension planned through the **Soyuz Vostok pipeline**. The Power of Siberia pipeline (contract signed in 2014 between Gazprom and CNPC) is a major strategic project, with **annual supply of 38 billion m<sup>3</sup> for 30 years** and an estimated cost of **USD 55 billion**. The system transports gas from Yakutia and Irkutsk to the Far East and China.

Russia exported **6.5 million tons of LNG to China in 2022**, behind Australia (21.9 million tons), Qatar (15.7 million tons), and Malaysia (7.4 million tons). In 2022, Russia increased **rail transport of liquefied petroleum gas to China 2.3 times** (to 147.1 thousand tons), ranking fourth in LNG exports to China. Export volumes are limited by rail capacity, and expanding logistics will allow further increases.

By the end of 2022, Russia and China agreed to **settle gas payments in rubles and yuan**.

Russia also faces challenges in exporting gas to other countries due to the **shutdown of Nord Stream 1** following explosions. The pipeline, connecting Russia and Germany, transported **55 billion m<sup>3</sup> of gas**. Restart was planned for April 2023.

## Conclusion

Recently, global energy supply chains have been disrupted, leading to energy shortages, primarily caused by sanctions imposed by the collective West on Russia due to its special military operation.

To ensure reliable energy supplies, issues of **security, accessibility, and sustainability** must be addressed. Increased attention to energy security raises demand for both conventional energy resources and renewable/non-fossil fuel sources. Oil remains the **leading energy resource** and is expected to maintain this role for the next 20–30 years, underscoring the need for ongoing investment in oil and gas exploration and production.

Improving trade cooperation between Russia and China in oil and gas should focus on:

1. **Increasing R&D investment** to reduce risks and improve production efficiency;
2. **Strengthening collaboration between universities and companies**;
3. **Expanding joint investments** in the energy sector;
4. **Creating a BRICS geological platform** for joint research and technology implementation;
5. **Enhancing energy security** for both countries.

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