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SCIENTIFIC METHODOLOGICAL STUDY OF CHINA RUSSIA, BELARUS IN THE TRANSPORTATION OF OIL TRADE

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Abstract: This paper discusses the main elimination of China, Russia, Belarus in the oil trade between the situation, and through the three countries between China, Russia, Russia and Belarus in the transportation of oil energy between the methods, respectively, in the pipeline transportation, road transportation, railroad transportation, air transportation and water transportation and other aspects of the logistics analysis of oil energy, and ultimately determined that both Russia and Russia and Belarus use pipeline transportation of oil energy is the preferred move, pipeline transportation not only ensures the safety of oil transportation, but also the price is low, is to improve the stability and security of the national economy. Pipeline transportation not only ensures the safety of oil transportation, but also has a low price, which makes it an excellent choice for improving the stability and security of the national economy.

Keywords: energy oil trade transportation

Energy is the cornerstone of national economic development, and energy transportation is the lifeblood of the national economy. For a long time, China has relied on a single source of energy, oil, for its industrial construction, and it has played an important role in industrial construction for a certain period of time. As a necessary energy source in China's industrialization process, oil energy imports, refining and development, reserves and transportation have always been the focus of the country's current attention. However, as a non-renewable energy source, oil energy, especially China's limited total oil energy development, regional uneven distribution of oil energy and other problems seriously affect the implementation of China's oil energy-related strategies and oil energy strategic reserve security, China, as the world's first major oil consumption,

most of the oil energy needs to rely on imports of oil from overseas oil-producing countries in order to meet the real needs of China's security reserves. security reserve needs. The comparison between China’s petroleum energy extraction and imports is shown in Table 1.In view of the current reality of China's oil energy supply and demand, if we really want to improve China's position and initiative in the international oil energy market, and further safeguard the national oil energy security, oil energy logistics as a key link in the work of oil imports should not be ignored.

Table 1 Comparison of petroleum energy exploitation and import in china

year	Oil production volume (10,000 tons)	Oil import volume (10,000 tons)	External dependence
2013	17587.3	17291.3	38.23%
2014	18135.3	17163.3	39.69%
2015	18476.6	19453.0	43.05%
2016	18631.8	21139.4	46.05%
2017	19004.0	23015.5	48.00%
2018	18949.0	26542.4	51.17%
2019	20301.4	29437.2	53.72%
2020	20287.6	31593.6	55.11%
2021	20747.8	33088.8	56.42%
2022	20812.8	35624.7	57.39%

According to the latest news released by China's General Administration of Customs, China has become a net importer of oil and energy since 1993 for the first time so far, the degree of external dependence on oil and energy from the lowest 6% soared all the way, it is worth mentioning that, China's external dependence on oil and energy in 2009 formally exceeded 50% of the "international warning line", and then in 2010, oil imports have increased dramatically, the degree of external dependence once exceeded 55%, the total oil and energy imports for the first time exceeded 239 million tons [1]. therefore, our country and the energy power Russia signed a large number of oil trade contracts, but after the trade in the transportation of oil energy logistics are faced with a number of urgent problems, mainly in the optimization of the oil and energy industry chain and the lack of understanding of logistics cost management and control of the flow of the lack of guidance of modern supply chain management theories Problems such as, resulting in China's oil energy logistics costs have been high, high logistics costs not only to a certain extent affects the effective operation of China's entire petroleum industry and related management costs, but also greatly reduces the competitiveness of the petroleum industry and organizations. Belarus, however, belongs to a large number of imported oil

and energy countries[2], due to the close proximity to Russia, energy transportation can be mixed using a variety of methods of transportation, therefore, in the optimization of the oil and energy industry chain and logistics costs relative to our country on the simplification of a lot of low-cost oil and energy has greatly contributed to the development of Belarusian industry and transportation, and further promote the gross national product of the national economy.China's oil imports in 2022 are shown in Figure 2.

China-Russia, Russia-White oil and energy trade and import relationship analysis

According to the latest news released by China's Bureau of Energy Statistics, the completion and use of the Sino-Russian oil oil transportation pipeline has made China's annual oil imports from Russia reach 62.48 million tons in 2022, and Russia has once become China's most important source of oil and energy imports, accounting for nearly 19.8% of China's total oil and energy imports in the year 2022. In addition, Saudi Arabia, as the world's top oil producer, accounts for 13.24% of total global oil production. According to the latest data published for 2022, our total annual oil and energy imports from Saudi Arabia amounted to 31 million tons, accounting for nearly 11% of our total oil and energy imports for the year 2022. The cumulative share of Russia, Saudi Arabia and Angola as the main sources of our oil and energy imports in 2022 totaled 38.7%.

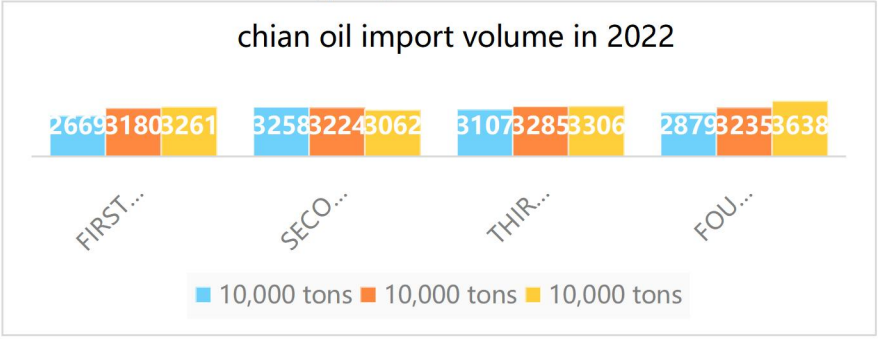

Table 2, China's quarterly petroleum import volume in 2022

In recent years, China should actively participate in oil exploration in Russia's Far East, because Russia's Far East is connected to China's land, for China can get rid of part of the cost of shipping and its risks, for Russia can use China's capital for better development, so that the development of energy tends to be a virtuous cycle, based on the common interests of both Russia and China are tied, China and Russia should be more in the petroleum

aspects of the strengthening of cooperation, to maintain long-term stable oil trade and its exploration business. Maintain long-term stable oil trade and exploration cooperation.

Usually oil transactions between Russia and China, Belarus and Russia are settled in US dollars, but there are other currencies as well. For example: euro, ruble, etc. However, due to the ongoing war between Russia and Ukraine and the sanctions imposed by the West, Russia and China and Belarus are exploring the use of their respective national currencies for settlement in order to reduce their dependence on the US dollar. Currently, China's Xinhua News Agency and the Belarusian News Agency have reported that since 2022, China and Russia have been settling their oil and gas energy in yuan, while Belarus and Russia have harmonized their calculations in rubles. All three countries are in the grip of the hegemony of the dollar, and this practice is extremely helpful for trade facilitation and financial cooperation between Russia and China, and Russia and Belarus.

Analysis of logistics and transportation relations in oil and energy trade between China, Russia and Russia and Belarus

China and Russia have the following transportation methods in oil energy transportation

Railroad transportation: Several railroad transportation lines have been established between China and Russia, such as the China-European liner (China-European freight liner), which transports goods by rail. These trains usually start from major cities in China (e.g. Chongqing, Chengdu, Wuhan, Zhengzhou, Shanghai, etc.), pass through Kazakhstan, and reach several cities in Russia. Therefore, railroad transportation can be an important mode of transportation between China and Russia's oil trade.

Sea transportation: there are also a large number of sea routes between China and Russia to transport goods by sea. There are regular routes between major ports in China (e.g. Shanghai, Ningbo, Shenzhen, etc.) and major ports in Russia (e.g. Vladivostok, etc.), and oil can be transported by tanker ships. And the price of sea transportation is low and suitable for the transportation of oil crude oil in large quantities and long distances, the only disadvantage is that the transportation time is longer.

Road transportation: there are many ways of road transportation between China and Russia, through the tanker trucks to transport oil. However, this method is suitable only for Russian cities that are closer to our country. For example, the city of Blagoveshchensk to the city of Heihe, Heilongjiang, while road transportation, although flexible and convenient, the transport time is affected by the traffic conditions and the choice of

routes.

Pipeline transportation: both Russia and China attach great importance to the safety of oil energy transportation, since 2013 China's oil energy with Russia has risen step by step, China has begun to carry out a dedicated oil pipeline transportation with Russia, to the completion of the whole line in 2016. The two governments have taken a series of measures to ensure the safety of oil transportation, including strengthening the construction and maintenance of pipeline and railroad facilities, and enhancing the management and supervision of oil transportation companies. In addition, the two governments have strengthened military deployment in the border areas to ensure the safety of oil transportation.

There are several methods of oil and energy transportation between Belarus and Russia:

Road transport: the Belarusian road network has a total length of 102,900 kilometers, of which 89,900 kilometers are hardened, or 87.4% of the total length of roads, and the density of hardened roads is 42 kilometers per 100 square kilometers. The total length of highways is 1,532 kilometers, accounting for nearly 1.5% of the total road mileage. Belarus has several highways leading directly to Moscow, and as a union state Belarus is not subject to customs and security checks, so road transportation by tanker trucks is also a common option for Russia and Belarus.

Railroad transportation: Belarus has a total length of 5,474.1 km of railroads, of which 1,369.5 km are electrified, and the density of the railroad network is 2.6 km/100 km2. In 2021, the volume of freight transported by railroads will be 129 million tons, an increase of 2.9% year-on-year, and will account for 33.4% of the total volume of freight transported. Railroad is the most developed mode of transportation in Belarus, many coal, oil, and potash are transported by rail, its cost is low, and the speed is faster, the loading capacity is also commonly used in Russia and Belarus to transport oil and energy transportation methods.

Air transportation: Belarus has three main airlines: Belarusian Airlines, Gomel Airlines and Air Transport Export. The first two companies are mainly engaged in passenger air transportation, while the third company dominates the cargo air transportation market. Although there are two large air cargo companies in Belarus, the geographical location of Russia and Belarus is only 300 kilometers, and railroads, land transportation, and pipeline transportation already fully satisfy the consumption of oil and energy transportation, so air transportation is not at all suitable for Russia and Belarus.

Pipeline transportation, Russia's oil supplies to Belarus and neighboring countries are mainly transported by pipelines and railroads. These pipelines and railroad lines connect Russia's oil-producing regions with consuming countries such as Belarus, enabling large-scale oil transportation. In addition, Russia meets Belarus' domestic demand for petroleum products by processing and refining through Belarus also through its own oil processing facilities.

Conclusion

Based on the above analysis, the best way to transport oil energy between China and Russia is to use pipeline transportation and ferry transportation, which is cheaper but less time-sensitive. Railroad and road transportation is supplemented, the time is faster, but the transportation volume is small, the cost is higher, because the oil is flammable and explosive , and the price of air transport is high, so do not consider air transport. From the point of view of oil and energy transportation, Russia supplies oil to Belarus and China mainly through pipeline and railroad transportation, road transportation and water transportation. But because of these pipelines and railroad lines connected to the Russian oil production and, China, Belarus and other consumer countries, in order to realize the large-scale oil transportation, to ensure the safety and efficiency of oil energy transportation in addition, both in terms of cost and safety, only the pipeline transportation is the best first two sides of the best transportation channels.

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